FACILITY WIDE PERMIT for Ferro Corporation

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* Each of the 7 process packages has this general format.

SECTION I: FACILITY WIDE PERMIT COVER PAGE

Issued To: **Ferro Corporation**
US Route 130 South
Bridgeport, New Jersey 08014

Location: US Route 130 South
Bridgeport, New Jersey

Permit Number: NJ00012
Issuance Date: April 22, 1999
Effective Date: June 1, 1999
Expiration Date: June 1, 2004

This Facility-Wide Permit is being issued in accordance with N.J.S.A. 13:1D-35 et seq., particularly N.J.S.A. 13:1D-48, N.J.A.C. 7:1K et seq., N.J.S.A. 13:1E-1 et seq., N.J.A.C. 7:26 et seq., N.J.A.C. 7:26G et seq. N.J.S.A. 58:10A-1 et seq., N.J.A.C. 7:14A et seq., N.J.S.A. 26:2C-1 et seq., N.J.A.C. 7:27 et seq., and N.J.S.A. 58:1A-1 et. seq., N.J.A.C. 7:19-1 et. seq. The FWP will replace the following existing permits/certificates listed below.

i) Renewal of New Jersey Pollutant Discharge Elimination System (NJPDES) permit No. 5045 for process and storm water discharges and deletion of the Groundwater NJPDES permit No. 5045.

ii) Air Pollution Control Certificates listed in Attachment B and any others issued under ID 55049 or 55707;

iii) Renewal of Hazardous Waste Storage Permit, New Jersey Hazardous Waste Facility Permit No. 0809A1HP03, EPA ID No. 001 700 707

iv) Renewal of Water Allocation Permit No. 2099P

The FWP contains provisions covering the following monitoring and reporting requirements:

i) Emission reporting and tracking requirements pursuant to N.J.A.C. 7:27, Air Pollution Control;

ii) Recordkeeping and reporting of monitoring results pursuant to N.J.A.C. 7:14A-2.9;

iii) Submittal of New Jersey Pollution Prevention and Release Reports pursuant to N.J.A.C. 7:1K-5.1 and 6.1;

iv) Submittal of a biennial report by March 1 of each even numbered year covering hazardous waste generators activities during the previous calendar years pursuant to 40 CFR 264.75.

v) Submittal of quarterly diversion reports, DWR-017A, pursuant to the Water Supply Allocation Rules, N.J.A.C. 7:19-2.14.

Signed by Administrator
Administrator
NJDEP, Air Quality Regulation

Signed by Director
Director
NJDEP, Division of Water Quality

Signed by John A. Castner, P.E. P.P., Director
Director
NJDEP, Division of Solid and Hazardous

Signed by Administrator
Administrator
NJDEP, Water Supply Administration

Modified 11/28/00

SECTION II: FACT SHEET

1: **Name and Address of Applicant**

Ferro Corporation
US Route 130 South
PO Box 309
Bridgeport, New Jersey, 08014

2. **Name and Address of Facility Covered by Application**

Same

3. **Permitted Activities**

A) This Facility-Wide Permit is being issued in accordance with N.J.S.A. 13:1D-35 et seq., particularly N.J.S.A. 13:1D-48, N.J.A.C. 7:1K et seq., N.J.S.A. 13:1E-1 et seq., N.J.A.C. 7:26 et seq., N.J.A.C. 7:26G et seq. N.J.S.A. 58:10A-1 et seq., N.J.A.C. 7:14A et seq., N.J.S.A. 26:2C-1 et seq., N.J.A.C. 7:27 et seq., and N.J.S.A. 58:1A-1 et. seq., N.J.A.C. 7:19-1 et. seq. The FWP will replace the following existing permits/certificates listed below.

i) Renewal of New Jersey Pollutant Discharge Elimination permit No. 5045 for process and storm water discharges.

ii) Air Pollution Control Certificates listed in Attachment B;

iii) Renewal of Hazardous Waste Storage Permit, New Jersey Hazardous Waste Facility Permit No. 0809A1HP03, EPA ID No. 001 700 707

iv) Renewal of Water Allocation Permit No. 2099P

B) The FWP contains provisions covering the following monitoring and reporting requirements:

i) Emission reporting and tracking requirements pursuant to N.J.A.C. 7:27, Air Pollution Control;

ii) Recordkeeping and reporting of monitoring results pursuant to N.J.A.C. 7:14A-2.9;

iii) Submittal of New Jersey Pollution Prevention and Release Reports pursuant to N.J.A.C. 7:1K-5.1 and 6.1;

iv) Submittal of a biennial report by March 1 of each even numbered year covering hazardous waste generators activities during the previous calendar years pursuant to 40 CFR 264.75.

v) Submittal of quarterly diversion reports, DWR-017A, pursuant to the Water Supply Allocation Rules, N.J.A.C. 7:19-2.14.

4. **Facility Description**

A. Narrative Description

The applicant is a chemical manufacturer involved primarily in the manufacturing of organic intermediates and is classified in Standard Industrial Classification (SIC) Code 2869. Site operations have been identified into seven different processes that have the potential to release contaminants into the air, land, and waters of the State.

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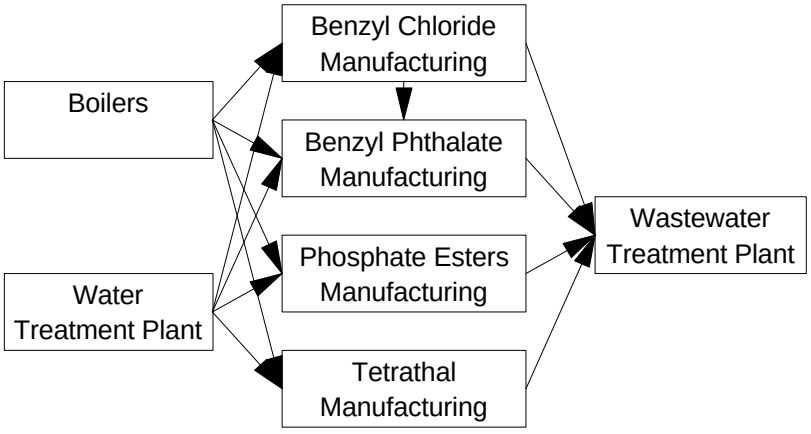
There are four production processes making tetrathal, benzyl chloride, phosphate esters, and benzyl phthalates. The benzyl chloride also produces hydrochloric acid as a sellable commodity. The benzyl phthalate process uses a portion of the benzyl chloride as an input. Additionally, some weak hydrochloric acid generated in the phosphate esters process is used for neutralization in the waste water treatment plant(WWTP). In general, all four of the production processes go through a storage step, a reaction step, and a recovery/refinement/packaging step. The facility's water treatment plant is used to process well water to use on site. Steam is supplied to the process from the Logan Co-generation plant. The on-site boiler will only be used when the neighboring CO-GEN is down and for weekly startup to insure operation. The WWTP is used to treat receiving wastewater from the four processes and the boiler. It also has the capacity to treat stormwater and spill contained material. **The WWTP will also be authorized to receive leachate from the former on-site landfill (currently owned and operated by Solutia Inc.) and wastewater from any ongoing cleanup operations except from PDA #1, by Ferro, Solutia Inc. or their successors.** However, at this time, these activities are not being performed.

This FWP permits the release of air pollutants from significant air emission sources, the discharge from the WWTP, one other stormwater discharge, and the storage of hazardous waste in one tank and a container storage area.

B. General Flow Diagram



5. **Basis for Facility-level Multimedia Permit Conditions**

A. Pollution Prevention Plan

The applicant has prepared a Pollution Prevention Plan (Plan) pursuant to the Pollution Prevention Rules, N.J.A.C. 7:1K 1.1 et seq. The plan includes a comprehensive analysis of the use and generation of 17 listed hazardous substances and 22 other substances in the affected processes. The 17 listed substances are the same as those reported on the Federal Toxic Release Inventory (TRI). The additional 22 substances were included as part of a more thorough review of the facility. Take note that the flow diagrams in the production process packages that follow have dashes on them. The dashed lines represent points of nonproduct generation and are integrally connected to the pollution plan prepared by the facility.

B. Facility Level Multimedia Releases

Facility-level air emissions for Volatile Organic Compounds (VOCs), Total Suspended Particulates (TSPs), Particulate Matter Less Than 10 Microns (PM-10), Oxides of Nitrogen (NOx), Carbon Monoxide (CO), and Sulfur Dioxide (SO_2)are based in part on compliance with

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N.J.A.C. 7:27-18.1 et. seq. "Control and Prohibition of Air Pollution from New or Altered Sources Affecting Ambient Air Quality," more commonly referred to as the "Emission Offset Rules." These rules require covered major sources to determine if proposed emission increases are a "significant net emission increase." If so, the facility is required to purchase offsets and implement technology representing the Lowest Achievable Emission Rate (LAER). Information contained in existing Air Pollution Control (APC) permits, the FWP application and the Pollution Prevention Plan was used to construct the attached Facility Release Summary Table in Section III. E., which is the equivalent of an emission offset analysis pursuant to N.J.A.C. 7:27-18.7. This information shows that there are no significant net emission increases based on the new emission limits proposed in the facility-wide permit. The emissions contained in the final FWP will establish the baseline for the next five year contemporaneous period to be used to determine the applicability of the "Emission Offset Rules" should any additional emission increases occur during this five year period.

C. Surface Water Limits

A statement of basis has been developed to demonstrate how a limit was determined and what sampling for that limit is required. The statement of basis is included in the body of the permit.

D. Groundwater Limits

Sampling of groundwater requirements are not included as part of this permit. The Bureau of State Case management and USEPA Region II are preparing a site wide groundwater-sampling plan for the facility. Since these are not activities associated with normal production activities, the Department chose not to include them as part of the FWP.

E. NOx RACT for Boilers

Due to the co-generation plant, Logan Generating Company, operating adjacent to the Solutia, Inc.'s facility, the boilers are not expected to be run for more than testing and backup. The NOx RACT provisions of N.J.A.C. 7:27-19 are not required. The specific applicable Sub 19 requirements are referenced in the Boiler process package.

F. VOC/RACT

A significant wastewater stream has already been addressed in the VOC/RACT wastewater requirements. A decanter has been installed in one production process to in-process recycle both toluene and benzyl chloride. This requirement has already been incorporated into this facility wide permit.

However, the VOC/RACT plan has yet to be approved by the Department. Approval of the plan may require additional source and/or control device installation or modification. In addition, the sewer and associated equipment will need to be further reviewed for VOC reduction opportunities. At the time the Department approves the plan, the facility wide permit shall be modified to address any additional requirements of the VOC/RACT plan and approval.

6. **Procedures for Reaching a Final Decision on the Draft Permit**

The procedures for reaching a final decision on the draft FWP are set forth in N.J.A.C. 7:1K-7.3. The public notice for the FWP includes requirements for the submission of comments by a specified date and other procedures for participation in the final agency decision.

7. **NJDEP Contact**

Additional information concerning the Draft permit may be obtained by contacting**: Jennifer Noblejas**, Office of Pollution Prevention at (609) 777-0518.

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SECTION III: GENERAL AIR FACILITY CONDITIONS

Section III A. through F. applies only to those statutes, regulations and permit conditions associated with compliance with air portion of the FWP. Section III A. through F shall not be applied to any other media covered by this permit.

A. Appeal Rights

The permittee may appeal the issuance of the final facility-wide permit pursuant to the provisions of N.J.S.A. 13:D-1 *et seq.*; N.J.S.A. 52:14B-1 *et seq.*; and N.J.S.A. 26:2C-1 *et seq*.

B. Modification of Facility-Wide Permit

The permittee may modify this facility-wide permit in accordance with the conditions of N.J.A.C. 7:27-8.27.

1. This FWP authorizes the alteration, modification, installation and operation of existing and new equipment and control apparatus which are part of the processes described in this FWP (see Section 1C in processes A, B, C & D) if the alteration or installation:

a. Is either:

i) Allowed under the facility-wide permit; or

ii) Documented in a modification to a Pollution Prevention Plan, which satisfies the requirements of N.J.A.C. 7:1K-3 and 4, or in a Pollution Prevention Assessment as defined in N.J.A.C. 7:1K-5; and

b. Does not cause any of the following::

i) Exceed the Facility Release Limits ("FRL") or the applicable process limits for Processes A - G, whichever limit is more stringent;

ii) Increase the generation of non-product output per unit of production manufactured on the equipment or production process; or

iii) Exceed the maximum allowable concentration or effluent limitation of any discharge to waters of the state; and

iv) Add any new production process.

2. The permittee shall report the alteration, modification, installation or operation and any Pollution Prevention Plan Modification or Pollution Prevention Assessment to the department within 120 days after the occurrence of the change as an amendment of the facility-wide permit pursuant to the procedures for amendment at N.J.A.C. 7:27-8.3(c).

3. For equipment or control apparatus generally subject to N.J.A.C. 7:27-8.1 *et seq*., the FWP shall constitute the required operating certificate.

4. For any change to equipment or control apparatus which is not authorized in Section IIIB above, the permittee shall amend the FWP pursuant to N.J.A.C. 7:27-8.1 *et seq.* and the Air Pollution Control Act, N.J.S.A. 26:2C-1 *et seq.*.

5. The Department may require the Permittee to modify the permit to include any new applicable requirements when they are promulgated.

C. General Conditions

1. In accordance with N.J.A.C. 7:27-5, the equipment covered by this permit shall not cause any air contaminant, including an air contaminant detectable by sense of smell, to be present in the outdoor atmosphere in such quantity and duration which is, or tends to be injurious to human health or welfare, animal or plant life or property, or would unreasonably interfere with the enjoyment of life or property, except in areas over which the owner or operator has exclusive use or occupancy. This condition is designated as not being Federally enforceable because it is based on an applicable state requirement only.

2. Uncontrolled Particulate Sources - The permittee shall not use the equipment covered by this permit, unless specified in the applicable process package, in a manner that will cause visible emissions **greater than the prescribed standard**, exclusive of water vapor to be emitted into the outdoor atmosphere. Compliance with this requirement shall be verified visually by use of New Jersey Test Method 2 (N.J.A.C. 7:27B-2), or equivalent, or by opacity monitoring. This provision shall not apply to smoke from the facility boilers which is visible for a period of not longer than three minutes in any 30-minute period.

3. Unless otherwise specified all reports shall be submitted to the following address:

NJ Department of Environmental Protection
Environmental Regulation
Office of Pollution Prevention
PO Box 423
Trenton, NJ 08625-0423

4. The Permittee shall comply with all conditions of the Permit. Any non-compliance with a permit condition constitutes a violation of the New Jersey Air Pollution Control Act N.J.S.A. 26:2C-1 et seq., or the CAA 42 U.S.C. 7401 et seq., or both, and is grounds for enforcement action; for termination, revocation and reissuance, or for modification of the Permit; or for a denial of an application for a renewal of the Permit. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of it's Permit.

5. All source types are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-2, 5, 16.18, 18, 21, 23, 40 CFR 52, 40 CFR 61 Subpart A, M, FF, 40 CFR 63 Subpart A, F, G & H, 40 CFR 82, and N.J.S.A. 26:2C-19(e). All other references to regulations are cited at the process and source level in Section 3A of each process package. In addition, Attachment A clearly identifies the applicable and non-applicable Federal rules with citations and explanations.

6. Take note that the pound per hour for each source and the ton per year limit for each process is an enforceable limit. The ton per year number for the insignificant sources and the fugitive emissions is listed for informational purposes only. The pound per product limitation is a trigger for modification of the permit as discussed in Section III. B. above.

7. Process equipment control devices shall be operational when the process equipment is venting to them. If process equipment is not in use, the control device associated with that equipment may be turned off. Control devices associated with storage tanks may not be turned off unless the storage tank is completely empty.

D. Recordkeeping, Monitoring and Reporting

1. Recordkeeping

a. All records required to be kept as part of this Permit shall be entered in a permanently bound log book or readily accessible files, or in readily accessible computer memories, or by a method acceptable to the State Regional Enforcement Office, maintained on site for a minimum of five years after collection and shall be made available to representatives of the Department upon request.

b. The permittee shall establish and maintain record keeping with respect to VOC sources, emission rates and related operating parameters as applicable pursuant to the provisions under N.J.A.C. 7:27-16.16(g). Records shall include data related to VOC emissions through the controlled and uncontrolled stacks, to demonstrate compliance with the lb/hr emission limits in Section 2A of each process.

c. The permittee shall establish and maintain record keeping with respect to particulate sources, emission rates and related operating parameters as applicable. Records shall include data related to particulate emissions through all stacks, to demonstrate compliance with the lb/hr emission limits in Section 2A of each process.

d. The permittee shall establish and maintain record keeping with respect to all fuel burning sources, emission rates and related operating parameters as applicable. Records shall include data related to all category of emissions through all stacks, to demonstrate compliance with the lb/hr emission limits in Section 2A of each process.

2. Monitoring – There are no facility specific monitoring requirements for any of the significant sources. However, the fugitive emission survey as required pursuant to N.J.A.C. 7:27-16.18 shall be performed.

3. Reporting

a. Release Summary Reports - The Permittee shall submit to the Department, beginning from the effective date of this permit, a summary of all air releases from the facility. The report shall be submitted to the Office of Pollution Prevention and Permit Coordination and shall include:

Total air releases that occurred during the year-period between January 1 and December 31 shall be submitted by April 15 of the following year. If an extension is granted for the annual emission statement, the submission of the release summary report shall also be delayed by the same time period. The air releases shall be broken down into categories and sub-categories with the hazardous air pollutants being speciated.

b. Annual Emission Statement – Pursuant to N.J.A.C. 7:27-21, an annual emission statement shall be submitted to the Department. The emission statement shall be based on the monitoring and recordkeeping of actual emissions, capture and control efficiencies, process rate and operating data for source operations with potential to emit certain contaminants.

c. Off Property Effects - Any operation of the equipment covered by this permit which may cause off-property effects, including odors, shall be reported by the Permittee immediately, as required by the Air Pollution Control Act, N.J.S.A. 26:2C-19(e). Such report shall be made by calling the Environmental Action Hotline at (609) 292-7172.

d. Quarterly Summary of Non-Compliance - The Permittee shall report any non-compliance of operating requirements directly related to emission limits or any non-compliance of conditions specified in this section or in the Compliance Plan (Section 3) for each Process, in writing, on a quarterly basis, to the Regional Enforcement Officer, unless otherwise specified in writing by the Regional Enforcement Office.

E. Facility-Level Release Information

The limitation for emission rates without fugitives (third column) is enforceable in that it is the total of all process emission tons/year. All other information in the table is for informational purposes only.

Facility-level Release Summary Table

Attachment 1

Contaminant	Existing Facility Permit Limits*** Ton/Year	Facility Actual Emissions Ton/Year*	FWP Facility Emissions Limits without Fug Ton/Year	FWP Facility Emissions Limits with Fugitive Ton/Year
HAP-VOC	29.67		32.01	72.16
Other - VOC	34.45		68.29	86.25
Total VOC	*64.12*	153.44**	*100.30*	*158.41*
NOx	6.10	4.74	100.96	100.96
CO	1.30	1.38	24.70	24.70
SO2	0.32	1.45	25.42	25.42
Part	7.06		4.77	5.27
PM-10	0		9.35	9.35
HAP-Part	0.46		3.56	4.56
Total Part	*7.52*	1.68	*17.68*	*19.18*
Other - HAPs	4.75		11.82	12.78
Other	19.61		10.20	10.31
Total Other	*24.36*		*22.03*	*23.09*

* 1996 Emission Statement
** Total VOCs includes all HAP-VOCs
*** Grandfathered Sources Not Included

F. Facility Wide Risk Analysis

The permittee shall perform a facility wide risk analysis as follows:

1. A protocol for facility wide risk analysis shall be submitted to the Department within 90 days of the effective date of the permit. The Department shall review the protocol and send comments to the permittee within 60 days. All deficiencies in the protocol shall be addressed by the permittee by submitting revised protocol pages within a 60-day period of the date of the comments received from the Department. The protocol shall discuss and the risk assessment shall include all emission types (permitted sources, insignificant sources, fugitive). Technical

manual 1002 (Air Quality Regulation, Guidance on Preparing an Air Quality Modeling Protocol) and technical manual 1003 (Air Quality Regulation Program, Guidance on Preparing a Risk Assessment for Air Contaminant Emissions) shall be followed when preparing the submittal.

2. The risk assessment analysis shall be submitted to the Department within 60 days of the Department's approval of the protocol.

3. In the event that a significant risk is predicted, the Department may require a combination of any of the following:

a. The permittee may implement pollution prevention measures to reduce predicted risk to an insignificant level;

b. The permittee may install pollution control equipment, increase stack heights, or otherwise improve pollutant dispersion to reduce predicted risk to an insignificant level;

c. The permittee may further refine and more accurately calculate the allowable emission rate of a source and thereby reduce the predicted risk. A permit modification shall be made to address any reduction in emissions.

SECTION IV: GENERAL FACILITY CONDITIONS FOR WATER QUALITY

Section IV A. through E. applies only to those statutes, regulations and permit conditions associated with compliance with the water portion of the FWP. Section IV A. through E shall not be applied to any other media covered by this permit.

A. Appeal Rights

The permittee may appeal the issuance of the final FWP pursuant to the provisions of N.J.S.A. 58:11A-1 *et seq*. (Water Pollution Control Act), N.J.A.C. 7:14A-1 *et seq*. (NJPDES rules) and also N.J.S.A. 58:10A-1 *et seq* (Clean Water Enforcement Act)

B. Modification of Facility-Wide Permit

This facility may modify the FWP in accordance with conditions of N.J.A.C. 7:14A-16.3 and 16.4 [also N.J.S.A. 58:11A-1 *et seq*. (New Jersey Water Quality Planning Act) and N.J.A.C. 7:15-1 *et seq*. (Statewide Water Quality Management Planning Rules)].

1. This FWP authorizes the operation of existing treatment works which discharge to the surface waters of the State and are part of the wastewater treatment plant processes described in this FWP.

2. If the facility proposes a modification which includes, but is not limited to:

a. alteration of existing treatment works, such as new/additional treatment unit(s), expansion of design flow (increase in volumes discharged to surface waters);

b. any change in operation which could potentially affect the characteristics of the regulated discharge (discharges to surface waters) or the facility's ability to meet effluent limits identified in this FWP;

c. relocation of the discharge to surface water outfall.

If a, b, or c above are triggered, the permittee must apply for and receive a permit modification under the NJPDES rules or a written determination that a permit modification is not necessary. The request must comply with the Department's technical requirements for discharges to surface water to support the proposed NJPDES modification. Additionally, the proposed modification must demonstrate consistency with the applicable Water Quality Management Plan.

3. For any construction, expansion or major alterations/repairs of regulated units, subject to N.J.A.C. 7:14A-22 and 23, the permittee shall also obtain a Treatment Works Approval(s) to design, construct and operate a discharge unit capable of meeting limitations and standards of this FWP.

4. The permittee shall not alter or modify the wastewater treatment plant operation without application to the Department for review and without receiving appropriate approvals, as identified above.

5. The permittee may request a modification of their permit to decrease monitoring frequencies for limited parameters if site specific conditions indicate applicability of such a modification. The Department will consider reducing the monitoring frequency of a limited parameter provided that:

    a. ELGs applicable to the facility do not specify the required monitoring frequency;

    b. the frequency reduction conditions are included in the draft permit, which has been public noticed;

    c. there has been no material change in the composition of the wastewater during the specified monitoring period;

    d. the permittee has shown consistent compliance with all permit conditions for the affected parameter(s) for:
        i) a minimum period of one (1) year for a monitoring frequency of weekly;
        ii) a minimum period of two (2) years for a monitoring frequency of twice per month;
        iii) a minimum period of three (3) years for a monitoring frequency of monthly;
        iv) a minimum period of five (5) years for a monitoring frequency of quarterly; and
        v) a minimum period of eight tests for Whole Effluent Toxicity (WET) limitations;

A monitoring frequency can be reduced as follows:
- a. from weekly to monthly;
- b. from twice monthly to monthly;
- c. from monthly to quarterly; or
- d. from quarterly to semi-annually or annually.

For WET limitations, monitoring frequencies can be reduced as follows:
- a. a minimum of twice per year for major dischargers; and
- b. a minimum of annually for minor dischargers.

Reduction of monitoring frequency is not automatic; the Department shall determine whether or not a reduction is warranted. The Discharge Monitoring Reports (DMRs) shall be reviewed to verify consistent compliance with permit limitations and conditions for the affected parameter(s). If the Department agrees to grant the request, the Department will perform a conditional change to the permit to change the monitoring frequency of the affected parameters.

A request for a modification of the monitoring frequency should be sent to the Chief of the Bureau of Permit Management, P.O. Box 29, Trenton, New Jersey 08625. A copy of the letter should also be sent to the Office of Pollution Prevention and Permit Coordination.

C. General Conditions

1. Operator Certification - Pursuant to N.J.A.C. 7:10A-1.1 *et seq.*, every wastewater "system" not exempt pursuant to N.J.A.C. 7:10A-1.10(b) requires a licensed operator. The operator of a "system" shall meet the requirements of the Department pursuant to the provisions of N.J.A.C. 7:10A-1.1 *et seq.* and any amendments thereto. The name of the proposed operator, where one is required, shall be submitted to the Department in order that his/her qualifications may be determined prior to initiating operation of the treatment works. Further information regarding this requirement may be obtained from:

   NJDEP
   Bureau of Revenue
   Examinations and Licensing Unit
   PO Box 417
   Trenton, New Jersey 08625-0417
   (609) 777-1012

   The operation of a waste treatment or disposal facility shall at no time create: (a) a discharge, except as authorized by the Department in the manner and at the location(s) specified in Process F of this permit; or (b) any discharge to the waters of the State or any standing or ponded condition for water or waste, except as specifically authorized by a valid NJPDES permit.

2. The permittee shall provide general restriction of access, such as fencing, to the wastewater treatment and disposal system, to include all units and buildings of the treatment plant.

3. Prior to any change in ownership, the current permittee shall comply with the requirements of N.J.A.C. 7:14A-16.2, pertaining to notification of change of ownership.

4. Outfall Tag - All permittees with discharges that flow through an outfall pipe, unless such outfall pipe is completely and continuously submerged, or is not assigned a Discharge Serial Number (DSN) shall notify the Department that a tag to mark the location of the pipe has been installed on the pipe by the effective date of the permit consistent with N.J.A.C. 7:14A-6.2(a)9.

5. Schedule of Maintenance - Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during non-critical water quality periods and carried out in a manner approved by the Department.

6. Upset and Bypasses/Non-compliance - All permittees shall report to the Department (and receiving DTW, if applicable) any permit non-compliance in accordance with the requirements of N.J.A.C. 7:14A-6.10.

7. In addition to the Office of Pollution Prevention, the Permittee shall also submit a copy of all reports regarding surface water discharges to:

The Delaware River Basin Commission
PO Box 7360, 25 State Police Drive
West Trenton, NJ 08628-0360

D. Recordkeeping, Monitoring and Reporting

All records required to be kept as a part of this permit shall be entered in a permanently bound log book, or in readily accessible computer memories, or by a method acceptable to the Regional Enforcement Office, maintained on-site for a minimum of five years after collection and shall be made available to representatives of the Department upon request.

These records shall include, but not be limited to, effluent monitoring data, visual observations and inspection data regarding plant performance and Outfall 001 and 002 conditions.

Monitoring and Reporting is outlined in the Process F, Sections 2 and 3.

E. Inspections

On-site compliance inspections are performed a minimum of once a year pursuant to N.J.S.A. 58:10A-1 *et seq*. Site visits for all other general purposes can be organized by representatives of the Department on an as needed basis. The facility is required to provide access to the Department at all times, as outlined in N.J.A.C. 7:14A-6.2.

SECTION V: GENERAL HAZARDOUS WASTE FACILITY CONDITIONS

Section V. A. through V. applies only to those statutes, regulations and permit conditions associated with compliance with hazardous portion of the FWP. Section V A. through V. shall not be applied to any other media covered by this permit.

A. Duty to Comply

The permittee must comply with all conditions of this permit, except that the permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized in an emergency permit. (See 40 CFR 270.61). Any permit noncompliance, except under the terms of an emergency permit, constitutes a violation of the appropriate Act and is grounds for enforcement action; for termination of the hazardous waste portion of the FWP, revocation and reissuance, or modification; or for denial of a hazardous waste permit renewal application.

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

C. Need to Mitigate

In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

D. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

E. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

F. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege.

G. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any relevant information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

H. Inspection and Entry

The permittee shall allow an authorized representative of the Department upon the presentation of credentials and other documents as may be required by law to:

1. Enter at reasonable times upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

I. Monitoring and Records

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

2. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, the certification required by 40 CFR 264.73(b)(9) of this chapter, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, certification, or application. This period may be extended by request of the Department at any time. The permittee shall maintain records from all RCRA ground-water monitoring wells and associated ground-water surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well.

3. Records for monitoring information shall include:

   a. The date, exact place, and time of sampling or measurements;

   b. The individual(s) who performed the sampling or measurements;

   c. The date(s) analyses were performed;

   d. The individual(s) who performed the analyses;

   e. The analytical techniques or methods used; and

   f. The results of such analyses.

J. Signatory Requirements

All applications, reports, or information submitted to the Department shall be signed and certified. (see 40 CFR 270.11).

K. Reporting Requirements

1. Planned Changes

   The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility.

2. Anticipated Noncompliance

   a. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements. For a new facility, the permittee may not treat, store, or dispose of hazardous waste; and for a facility being modified, the permittee may not treat, store, or dispose of hazardous waste in the modified portion of the facility except as provided in 40 CFR 270.42, until:

      i. The permittee has submitted to the Department by certified mail or hand delivery a letter signed by the permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and

      ii. (A) The Department has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or

(B) If, within 15 days of the date of submission of the letter in paragraph L.2.a.i. of this section, the permittee has not received notice from the Department of his or her intent to inspect, prior inspection is waived and the permittee may commence treatment, storage, or disposal of hazardous waste.

3. Transfers

This permit is not transferable to any person except after notice to the Department. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under RCRA. (See 40 CFR 270.40).

4. Monitoring Reports

Monitoring results shall be reported at the intervals specified elsewhere in this permit.

5. Compliance Schedules

Reports of compliance or noncompliance with or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

6. Twenty-Four Hour Reporting

a. The permittee shall report any noncompliance which may endanger health or the environment orally within 24 hours from the time the permittee becomes aware of the circumstances, including:

i. Information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies.

ii. Any information of a release or discharge of hazardous waste or of a fire or explosion from the HWM facility, which could threaten the environment or human health outside the facility.

b. The description of the occurrence and its cause shall include:

i. Name, address, and telephone number of the owner or operator;

ii. Name, address, and telephone number of the facility;

iii. Date, time, and type of incident;

iv. Name and quantity of material(s) involved;

v. The extent of injuries, if any;

vi. An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

vii. Estimated quantity and disposition of recovered material that resulted from the incident.

c. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Department may waive the five day written notice requirement in favor of a written report within fifteen days.

d. Oral Notification shall be provided to the NJDEP Hotline at (609) 292-7172. Written notification shall be provided to the Bureau of Hazardous Waste and Transfer Facilities and the Bureau of Hazardous Waste Enforcement at the addresses provided in Condition V. below.

7. Biennial Report

A biennial report must be submitted in even numbered calendar years covering facility activities for the previous year's hazardous waste activities. (See 40 CFR 264.75).

8. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under paragraphs (4), (5) and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (6) of this section.

(i) Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

L. Permit Modification or Revocation and Reissuance

Cause for, and procedures of, modification, or revocation and reissuance of this permit shall be as provided under 40 CFR 270.41.

M. Personnel Training (40 CFR 264.16)

1. Facility personnel shall successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that insures the facility's compliance with the requirements of 40 CFR 264.16, as stated in the facility's Part B permit application. New employees shall be trained within six (6) months of the date of employment.

2. The training program shall be maintained with records and documentation describing the type and amount of both introductory and continuing training that has been and will be given to each person engaged in hazardous waste management at the facility.

3. The permittee shall keep the training records on current personnel until closure of the facility; training records on former employees shall be kept for at least three (3) years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

N. Preparedness and Prevention (40 CFR 264.30 through 264.37)

The facility shall be designed, constructed, maintained and operated to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil, surface water or groundwater which could threaten human health or the environment.

1. The facility shall be equipped with emergency equipment, including but not limited to:

   a. An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

   b. A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

   c. Portable fire extinguisher, fire control equipment, spill control equipment, and decontamination equipment; and

   d. Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

2. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, shall be tested and maintained as necessary to assure its proper operation in time of emergency.

O. <u>Contingency Plan (40 CFR 264.50 through 264.56)</u>

1. The provisions of the Contingency Plan included in the Part B permit application plus all amendments, revisions and modifications thereof subsequently submitted for review and accepted by the Department shall be carried out immediately whenever there is a fire, explosion or release of hazardous waste constituents which could threaten health or the environment.

2. When an emergency coordinator determines that the hazardous waste units have had a discharge, fire, or explosion which could threaten human health or the environment outside the facility, the emergency coordinator shall immediately notify the local Fire Department and local Police Department if an assessment indicates that evacuation of local areas may be advisable. The emergency coordinator shall be available to help officials decide if local areas should be evacuated. The telephone numbers are:

   Fire Department: 911

   Police Department: 911

3. a. If the hazardous waste unit has a discharge, fire, or explosion that could threaten human health or the environment, the following shall be notified immediately:

   New Jersey Department of Environmental Protection
   Communication Center/Trenton Dispatch
   Bureau of Communication and Support Services
   Trenton, NJ 08625
   Telephone (609) 292-7172 (24 Hours)

   b. Additionally, if the emergency coordinator determines that the hazardous waste unit has had a discharge, fire, or explosion that could threaten human health, or the environment, outside the facility, the emergency coordinator shall immediately notify:

National Response Center
2100 Second Street, SW
Washington, D.C. 20593
Telephone 1-800-424-8802 (24 Hours)

4. If the emergency coordinator determines that the facility has had a discharge, fire, or explosion which would threaten human health or the environment, the emergency coordinator shall immediately notify the agencies listed in Condition O.3. above. When notifying these agencies, the coordinator shall report the type of substance and the estimated quantity discharged, if known; the location of the discharge; actions the person reporting the discharge proposes to take to contain, clean up and remove the substance if any and any other information concerning the discharge which the Department may request at the time of notification.

5. The owner or operator shall note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, the owner or operator shall submit a written report on the incident to the Department. The report shall include, but not be limited to:

   a. Name, address, and telephone number of the owner or operator;
   b. Name, address, and telephone number of the facility;
   c. Date, time, and type of incident;
   d. Name and quantity of material(s) involved;
   e. The extent of injuries, if any;
   f. An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
   g. An estimated quantity and disposition of recovered material that resulted from the incident.

P. <u>Security (40 CFR 264.14)</u>

1. The permittee must maintain the security procedures as described in the facility's Part B permit application plus all amendments, revisions and modifications thereof subsequently submitted for review and accepted by the Department.

2. The permittee shall prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of the facility.

   a. A facility shall have:

      i. A 24-hour surveillance system which continuously monitors and controls entry onto the active portion of the facility; or

      ii. An artificial or natural barrier, which completely surrounds the active portion of the facility; and a means to control entry, at all times, through the gates or other entrances to the active portion of the facility.

   b. The requirements of paragraph 2.a. are satisfied if the hazardous waste storage, treatment or disposal site is located in a facility which itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of subparagraph 2.a.i. or 2.a.ii.

   c. The owner or operator shall post a sign with the legend, "Danger - Unauthorized Personnel Keep Out", at each entrance to the active portion of a facility, and at other

locations, in sufficient numbers to be seen from any approach to this active portion. The legend shall be written in English and in any other language prevalent in the area surrounding the facility and must be legible from a distance of at least twenty-five (25) feet. Existing signs with a legend other than "Danger - Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

Q. Termination of a Permit (40 CFR 270.43)

The following are causes for terminating a permit during its term or for denying a permit renewal application:

1. Noncompliance with any condition of this permit; or

2. The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or

3. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

R. Operating Record (40 CFR 264.73)

The permittee shall keep a written operating record at the facility in which the information required under 40 CFR 264.73(b) shall be recorded. The information shall be recorded as it becomes available and maintained in the operating record until closure of the facility.

S. Permit Limitations (40 CFR 270.4(c)

The issuance of this permit does not authorize any injury to persons or property or invasion of other private rights or any infringement of applicable Federal, State, or local laws or regulations.

T. Financial Requirements (40 CFR Part 264, Subpart H)

1. The permittee shall maintain financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility. The permittee shall have and maintain liability coverage for sudden occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million exclusive of legal defense costs. The permittee shall demonstrate financial responsibility for sudden accidental occurrences according to the mechanisms given in 40 CFR 264.147 paragraphs (a)(1), (2), (3), (4), (5) or (6).

2. The permittee shall establish financial assurance for closure of the facility. The permittee shall use a financial assurance mechanism approved by the Department, from the options specified in paragraphs (a) through (f) of 40 CFR 264.143.

3. The permittee shall have a detailed written closure cost estimate for the facility in accordance with 40 CFR 264.142(a). The permittee shall adjust the closure cost estimate for inflation within sixty (60) days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with 40 CFR 264.143. If the permittee uses the financial test or corporate guarantee, the closure cost estimate shall be updated for inflation within thirty (30) days after the close of the firm's fiscal year and before submission of the updated information to

the Department. The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business.* The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

a. The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

b. Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

4. During the active life of the facility, the permittee shall revise the closure cost estimate no later than (30) days after the Department has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in 40 CFR 264.142(b).

5. The permittee shall keep at the facility during the operating life of the facility, the latest closure cost estimate prepared in accordance with 40 CFR 264.142(a) and (c) and, when this estimate has been adjusted in accordance with 40 CFR 264.142(b), the latest adjusted closure cost estimate.

6. The wording of all financial documents (except for the insurance policy itself) that are submitted under paragraphs (a), (b) and (c) of this Condition must be as per 40 CFR 264.151 with the changes specified at N.J.A.C. 7:26G-8.1(c)8.

U. Compliance with Other State Regulations and Statutes

The permittee shall comply with all regulations of the Department of Environmental Protection and other State Statutes applicable to the facility. Regulations are effective upon publication in the New Jersey Register or as otherwise indicated in the Notice of Adoption in the New Jersey Register.

V. Submission of Documents Required by Permit Conditions

The permittee shall submit all permit compliance documents required by this permit to the following:

1. New Jersey Department of Environmental Protection
Office of Pollution Prevention and Permit Coordination
PO Box 423
Trenton, NJ 08625-0423

2. New Jersey Department of Environmental Protection
Solid and Hazardous Waste Enforcement
Bureau of Hazardous Waste Enforcement - (Southern Section)
One Port Center
2 Riverside Drive, Suite 201
Camden, NJ 08102

Federal Regulatory Applicability Review
Bridgeport, NJ (Delaware River Plant)

Analysis Performed by: **R. Nylund**
Date: **15-Jun-98**
Modified 11/28/00

Regulation	Description	Title V Applicable			Description of Applicability	Explanation	Plant Area
		Yes	No	Applies But No Action Required			
40 CFR 50.4-50.12	NAAQS: Criteria Pollutants		x		Applies to ambient air quality standards for geographic areas and not emissions from individual emission sources. Applies when facility modifications are made which trigger PSD or non-attainment area requirements.	Construction permit applications for new modified sources will address this requirement.	
40 CFR 51.166 and 52.21	NAAQS Prevention of Significant Deterioration			x	Applies to maj. stationary source new constr. or modif. which increase potent. emissions by signif. amts. Applies to all criteria pollutants in attainment areas and all criteria pollutants except the non-attainment pollutant(s) in non-attainment areas.	Construction permit applications for new modified sources will address this requirement.	All
40 CFR Parts 51 and 52. 52.24, 52.10	NAAQS: Nonattainment Program			x	Applies to areas designated as nonattainment as defined in 40 CFR 50.	Ozone	All
40 CFR Part 53	Ambient air monitoring reference and equivalent methods		x		General requirements for testing and equivalent methods.	Applies to agency.	
40 CFR Part 54	Prior notice of citizen suits		x		Lists procedures for citizens to follow in order to initiate citizen suits against the regulated community.	Applies to agency.	
40 CFR Part 55	Outer continental shelf air regulations		x		Outer continental shelf platforms affected.	This plant is not in outer continental shelf area.	
40 CFR Part 56	Regional Consistency		x		EPA must be consistent in carrying out policy.	Applies to agency	
40 CFR Part 57	Primary nonferrous smelter orders		x		Any facility with a nonferrous smelter is eligible for a NSO.	The plant is not a nonferrous smelter.	
40 CFR Part 58	Ambient air quality surveillance		x		Requires states to use specific monitoring criteria and reporting of ambient air quality data and information.	Applies to agency	
40 CFR 60 Subpart A	General provisions for NSPS			x	Applies to all facilities subject to NSPS. Includes what activities at a source constitute a modification, construction or reconstruction. Also includes general notification and recordkeeping requirements, general control device requirements, and time period after initial source startup or modification that compliance with a NSPS standard must be shown.	Currently there are no areas of the plant subject to NSPS. Major modifications or new construction could subject any area of the plant to this regulation.	All
40 CFR 60 Subpart B	Adoption and submittal of state plans for designated facilities		x		The provisions of this subpart apply to states upon publication of a final guideline document under 60.22(a).	Applies to agency	

40 CFR 60 Subpart C	Emission guidelines and compliance times for municipal waste combustors		x		The following subparts contain emission guidelines and compliance times for the control of certain designated pollutants in accordance with section 111(d) of the Act and subpart B. (a) Subpart Ca - Municipal Waste Combustors. (b) Subpart Cb - Sulfuric Acid Production Plants.	The facility does not combust municipal waste or produce sulfuric acid.	
40 CFR 60 Subpart Ca	Emissions Guidelines and Compliance Times for Municipal Waste Combustors		x		Affects municipal waste combustor units which process more than 250 tons/day.	The plant does not combust municipal waste.	
40 CFR 60 Subpart Cb	Sulfuric acid production units		x		Applies to sulfuric acid plants constructed, reconstructed or modified after August 17, 1971.	The plant does not produce sulfuric acid.	
40 CFR 60 Subpart D	Fossil fuel-fired steam generators constructed since August 17, 1971		x		Must install CEMS for SOx, NOx, and Opacity on stacks for boilers with heat input capacity, >250 MM Btu/hr and constructed, reconstructed, or modified after August 17, 1971.	No boilers on site >250MMBTU, or constructed since 1971.	
40 CFR 60 Subpart Da	Standards for electric utility steam generating units for which construction is commenced after September 18, 1978		x		Applies to electric steam generating units with capacity greater than 250 MM Btu/hr heat input capacity.	The facility does not produce electricity with steam generating units.	
40 CFR 60 Subpart Db	Industrial-commercial-institutional steam generating units		x		Must install CEMS for SOx, NOx, and Opacity on stacks for boilers with heat input capacity, >100 MM Btu/hr and constructed, reconstructed, or modified after June 19, 1984.	No boilers on site >100MMBTU, or constructed since 1984.	
40 CFR 60 Subpart Dc	Small industrial-commercial-institutional steam generating units		x		Must install CEMS for SOx and Opacity on stacks for boilers with heat input capacity, between 10 - 100 MM Btu/hr and constructed, reconstructed, or modified after June 9, 1989.	The facility does not have boilers with heat input of 10-100 MM Btu/hr built or modified after June 9, 1989.	
40 CFR 60 Subpart E	Incinerators		x			The plant does not incinerate any solid waste material on site.	
40 CFR 60 Subpart Ea	Municipal waste combustors		x			The plant does not combust municipal waste	
40 CFR 60 Subpart F	Portland cement plants		x			The plant does not process portland cement.	
40 CFR 60 Subpart G	Nitric acid plants		x			The plant does not manufacture nitric acid.	
40 CFR 60 Subpart H	Sulfuric acid plants		x			The plant does not manufacture sulfuric acid.	
40 CFR 60 Subpart I	Asphalt concrete plants		x			The plant does not process asphalt cement.	
40 CFR 60 Subpart J	Petroleum refineries		x			The plant does not refine petroleum.	

40 CFR 60 Subpart K	Storage vessels for petroleum liquids for construction, reconstruction, or modification, commenced after June 11, 1973, and prior to May 19, 1978.		x		Applies to petroleum storage vessels >40,000 gal. and < 65,000 gal. which is constructed of modified after March 8, 1974 and prior to May 19, 1978 and vessels >65,000 gal. which are constructed or modified after June 11, 1973 and prior to May 19, 1978.	The facility does not have such petroleum liquid storage vessels.	
40 CFR 60 Subpart Ka	Storage vessels for petroleum liquids for construction, reconstruction, or modification, commenced after May 18, 1978, and prior to July 23, 1984		x		Applies to vessels >40,000 gallons and <420,000 gallons constructed, reconstructed, or modified after May 18, 1978 and prior to July 23, 1984. Does not apply to Nos. 2 - 6 fuel oils.	The facility does not have such petroleum liquid storage vessels.	
40 CFR 60 Subpart Kb	Volatile organic liquid storage vessels (including petroleum liquid storage vessels) for which construction, reconstruction, or modification commenced after July 23, 1984.		x		Vessels with a capacity greater than or equal to 40 cubic meters (10,566 gal) that store VOL's except those which the EPA determined do not contribute to significant ozone formation. Partial exemptions are available for vessels meeting certain size and	The facility does not have such petroleum liquid storage vessels.	
40 CFR 60 Subpart L	Secondary lead smelters		x			The plant does not smelt lead	
40 CFR 60 Subpart M	Secondary brass and bronze ingot production plants		x			The plant does not produce this material.	
40 CFR 60 Subpart N	Iron and steel plants (primary emissions from basic oxygen furnaces constructed after June 11, 1973).		x			The plant is not an iron or steel plant.	
40 CFR 60 subpart	Iron and steel plants (primary emissions from basic oxygen furnaces constructed after January 20, 1983		x			The plant is not an iron or steel plant.	
40 CFR 60 Subpart O	Sewage treatment plants		x			The plant is not a municipal treatment plant with an incinerator.	
40 CFR 60 Subpart P	Primary smelters: Copper		x			The plant does not smelt metals.	
40 CFR 60 Subpart Q	Primary smelters: Zinc		x			The plant does not smelt metals.	
40 CFR 60 Subpart R	Primary smelters: Lead		x			The plant does not smelt metals.	
40 CFR 60 Subpart S	Primary aluminum reduction plants		x			The plant does not process aluminum.	
40 CFR 60 Subpart T	Phosphate fertilizer industry: Wet process phosphoric acid plants		x			The plant does not produce phosphate fertilizer.	
40 CFR 60 Subpart U	Phosphate fertilizer industry: Superphosphoric acid plants		x			The plant does not produce phosphate fertilizer.	
40 CFR 60 Subpart V	Diammonium phosphate plants		x			The plant does not produce phosphate fertilizer.	
40 CFR 60 Subpart W	Triple superphosphate plants		x			The plant does not produce phosphate fertilizer.	
40 CFR 60 Subpart X	Granular triple superphosphate storage facilities		x			The plant does not produce phosphate fertilizer.	

40 CFR 60 Subpart Y	Coal preparation plants		x			The plant is not a coal preparation plant.	
40 CFR 60 Subpart Z	Ferroalloy production facilities		x			The plant does not process ferroalloys.	
40 CFR 60 Subpart AA	Electric arc furnaces		x			The plant does not have electric arc furnaces.	
40 CFR 60 Subpart AAa	Electric arc furnaces and argon-oxygen decarburization vessels constructed after August 17, 1983		x			The plant does not have electric arc furnaces.	
40 CFR 60 Subpart BB	Kraft Pulp Mills		x			The plant is not a kraft pulp mill.	
40 CFR 60 Subpart CC	Glass manufacturing plants		x			The plant does not manufacture glass.	
40 CFR 60 Subpart DD	Grain Elevators		x			The plant does not process grain.	
40 CFR 60 Subpart EE	Surface coating of metal furniture		x			The plant does not coat furniture.	
40 CFR 60 Subpart GG	Stationary gas turbines		x			The plant does not have gas turbines.	
40 CFR 60 Subpart HH	Lime manufacturing plants		x			This plant does not manufacture lime.	
40 CFR 60 Subpart KK	Lead-acid battery manufacturing plants		x			The plant does not manufacture batteries.	
40 CFR 60 Subpart LL	Metallic mineral processing plants		x			The plant does not process minerals.	
40 CFR 60 Subpart MM	Automobile and light-duty truck surface coating operations		x			The plant does not coat vehicles.	
40 CFR 60 Subpart NN	Phosphate rock plants		x			The plant does not process phosphate rock.	
40 CFR 60 Subpart PP	Ammonium sulfate manufacture plants		x			The plant does not process ammonium sulfate.	
40 CFR 60 SubpartQQ	Graphic arts industry: Publication rotogravure printing		x			The plant is not in the graphic arts industry.	
40 CFR 60 Subpart RR	Pressure Sensitive tape and label surface coating operations		x			The plant does not manufacture tape or labels.	
40 CFR 60 Subpart SS	Industrial surface coating: large appliances		x			The plant does not coat appliances.	
40 CFR 60 Subpart TT	Metal coil surface coating		x			The plant does not coat coils.	
40 CFR 60 Subpart UU	Asphalt processing and asphalt roofing manufacture		x			The plant does not process asphalt.	
40 CFR 60 Subpart VV	Equipment leaks of VOC in the synthetic organic chemicals manufacturing industry		x		Standards control leakage from equipment that contacts a process fluid that is at least 10 percent VOC by weight. Applies to a facility constructed or modified after January 5, 1981.	The plant does not have an area that meets the constructed or modified definition since 1981.	
40 CFR 60 Subpart WW	Beverage can surface coating industry		x			The plant does not coat cans.	
40 CFR 60 Subpart XX	Bulk gasoline terminals		x			The plant does not have bulk gas terminals.	

40 CFR 60 Subpart AAA	New residential wood heaters		x			The plant does not have any residential wood heaters.	
40 CFR 60 Subpart BBB	Rubber tire manufacturing industry		x			The plant does not manufacture rubber tires.	
40 CFR 60 Subpart DDD	Polymer manufacturing industry		x			The plant does not manufacture the polymers covered in this subpart.	
40 CFR 60 Subpart FFF	Flexible vinyl and urethane coating and printing		x			The plant does not coat or print vinyl or urethane products.	
40 CFR 60 Subpart GGG	Equipment leaks of VOC in petroleum-refineries		x			The plant does not refine petroleum.	
40 CFR 60 Subpart HHH	Synthetic fiber production facilities		x		Solvent-spun synthetic fiber process of >500 mega gram of fiber/yr.	The plant does not have a synthetic fibers process.	
40 CFR 60 Subpart III	Synthetic organic chemical manufacturing industry air oxidation unit processes		x			The plant does not have an air oxidation unit.	
40 CFR 60 Subpart JJJ	Petroleum dry cleaners		x			The plant does not dry clean.	
40 CFR 60 Subpart KKK	Onshore natural gas processing plants		x			The plant does not process gas.	
40 CFR 60 Subpart LLL	Onshore natural gas processing: SO2 emissions		x			The plant does not process gas.	
40 CFR 60 Subpart NNN	Synthetic organic chemical manufacturing industry distillation operations		x		Applies to continuous distillation units within a process unit which process more than 1,000 metric tons/yr and associated recovery units. Facilities constructed or modified after December 30, 1983 must comply.	The plants SOCMI distillation units have not been modified since 1983.	
40 CFR 60 Subpart OOO	Nonmetallic mineral processing plants		x			This plant does not process minerals.	
40 CFR 60 Subpart PPP	Wool fiberglass insulation manufacturing plants		x			The plant does not manufacture insulation.	
40 CFR 60 Subpart QQQ	Petroleum refinery wastewater system VOC emissions		x			The plant does not refine petroleum.	
40 CFR 60 Subpart RRR	Synthetic organic chemical manufacturing industry reactor processes		x		Facilities which produce any of the listed chemicals as a product, coproduct or intermediate may trigger NSPS. Requires all new, modified, or reconstructed reactors to control emissions. Facilities constructed or modified after June 29, 1990 must comply.	The plants SOCMI reaction processes have not been modified since 1990.	
40 CFR 60 Subpart SSS	Magnetic tape coating Facilities		x			The plant does not coat tape.	
40 CFR 60 Subpart TTT	Industrial surface coating: Plastic parts for business machines		x			The plant does not coat machines.	
40 CFR 60 Subpart UUU	Calciners and Dryers in Mineral Industries		x			The plant does not process minerals.	

40 CFR 60 subpart VVV	Polymeric coating of supporting substrates facilities		x			The plant does not coat substrates.	
40 CFR 61 Subpart A	General provisions for National Emission Standards for Hazardous Air Pollutants (NESHAP)			x	This section includes definitions applicable to all 40 CFR 61 standards including the definition of what physical or operational changes trigger a modification or reconstruction. No more 40 CFR part 61 regulations will be promulgated. All regulations that were to be promulgated under 40 CFR part 61 will now be promulgated under 40 CFR part 63.		A
40 CFR 61 Subpart B	NESHAP: Radon emissions from underground uranium mines		x			The plant does not have mines.	
40 CFR 61 Subpart C	NESHAP: Beryllium		x			The plant does not process beryllium.	
40 CFR 61 Subpart D	NESHAP: Beryllium rocket motor firing		x			The plant does not fire beryllium rocket motors.	
40 CFR 61 Subpart E	NESHAP: Mercury		x			The plant does not process mercury.	
40 CFR 61 Subpart F	NESHAP: Vinyl chloride		x			The plant does not process vinyl chloride.	
40 CFR 61 Subpart H	NESHAP: Emissions of radionuclides other than radon from Department of Energy facilities		x			The plant does not emit radionuclides and is not a DOE facility.	
40 CFR 61 Subpart I	NESHAP: Radionuclide emission from facilities licensed by the Nuclear Regulatory Commission and Federal facilities not covered by subpart H		x			The plant is not a licensed NRC facility.	
40 CFR 61 Subpart J	NESHAP: Equipment leaks of Benzene		x			Benzene is not used at the facility	
40 CFR 61 Subpart K	NESHAP: Radionuclide emissions from elemental phosphorus plants		x			The plant is not an elemental phosphorus plant.	
40 CFR 61 Subpart L	NESHAP: Benzene emissions from coke by-product recovery plants		x			The plant is not a coke by-product recovery plant.	
40 CFR 61 Subpart M	NESHAP: Asbestos	x			Asbestos demolition operations.	Asbestos demolition follows emission control procedures.	A
40 CFR 61 Subpart N	NESHAP: Inorganic arsenic emissions from glass manufacturing plants		x			The facility does not manufacture glass.	
40 CFR 61 Subpart O	NESHAP: Inorganic arsenic emissions from primary copper smelters		x			The plant does not smelt metals.	
40 CFR 61 Subpart P	NESHAP: Inorganic arsenic emissions from arsenic trioxide and metallic arsenic production facilities		x			The plant does not manufacture arsenic trioxide or metallic arsenic.	
40 CFR 61 Subpart Q	NESHAP: Radon emissions from Department of Energy facilities		x			The plant is not a DOE facility.	
40 CFR 61 Subpart R	NESHAP: Radon emissions from phosphogypsum stacks		x			The plant does not have phosphogypsum stacks.	

40 CFR 61 Subpart T	NESHAP: Radon emissions from the disposal of uranium mill tailings		x			The plant does not have a uranium mill.	
40 CFR 61 Subpart V	NESHAP: Equipment leaks (fugitive emission sources)		x			No benzene or vinyl chloride are used at the plant	
40 CFR 61 Subpart W	NESHAP: Radon emissions from operating mill tailings		x			The plant does not have mill tailings.	
40 CFR 61 Subpart Y	NESHAP: Benzene emissions from benzene storage vessels		x			The plant does not use or store benzene.	
40 CFR 61 Subpart BB	NESHAP: Benzene emissions from benzene transfer operations		x			The plant does not have a benzene transfer operation.	
40 CFR 61 Subpart FF	NESHAP: Benzene emissions from benzene waste operations	x			This part sets forth requirements for controlling benzene in waste water streams.	Benzene enters the plant as a low level impurity in the toluene. Some of this benzene goes through the process and ends up in waste water streams. Initial notification of the benzene was made to EPA. Further action is not required due to the low amount	Bz
40 CFR 62 Subpart A	General provisions for approval and promulgation of state plans for designated facilities and pollutants (NESHAP Delegations)		x		This part sets forth the administrator's approval and disapproval of state plans or portions thereof, based on a determination that it meets the requirements of section 111(d) of the act and the provisions of part 60 of this chapter. The pollutants and source categories regulated under section 111(d) include fluoride emissions from phosphate fertilizer plants, sulfuric acid mist from sulfuric acid plants, total reduced sulfur from kraft pulp mills, and fluoride emissions from primary aluminum plants.	The plant is not one of the regulated source categories.	
40 CFR 62 Subpart B	Sulfuric acid mist plans.		x		Specific facilities are subject to sulfuric acid mist 111(d) plan: This site is not subject to the State's 111(d) plan.	The facility is not regulated by this requirement	
40 CFR 63	NESHAP: Asbestos Processing Standard (proposed)		x			The plant does not process asbestos.	
40 CFR 63 Subpart N	NESHAP: Chromium Electroplating		x			The plant does not electroplate.	
40 CFR 63 Subpart O	NESHAP: Ethylene Oxide from Commercial Sterilization		x			The plant does not sterilize.	
40 CFR 63	NESHAP: Halogenated Solvent Cleaning (proposed)		x		Applies to new and existing organic halogenated solvent cleaners using HAPs. Proposes stringent MACT for batch vapor and in-line cleaning machines.	Plant does not use batch vapor or in-line cleaning machines.	
40 CFR 63 Subpart S	NESHAP: Pulp and Paper (proposed)		x			The plant does not manufacture pulp and paper.	

40 CFR 63 Subpart A	HON General Provisions:	x			General provisions set up the frame work for compliance withthe HON MACT standards.	Potential emissions of HAPs make this site a major site applicaqble for to the HON.	A
40 CFR 63.70-.81 Subpart D	Early Reduction Program			x	Allows source that voluntarily make early reductions of HAP emissions to delay compliance with MACT for 6 years. Extension application are due 120 days after proposal of a standard 120 days after promulgation of an existing standard.	No early reduction applied for.	
40 CFR 63 Subpart Q	NESHAP: Chromium Industrial Cooling Towers		x		Applies to cooling towers that use chromium-based water treatment chemicals.	Plant does not use chromate based water treatment chemicals.	
40 CFR 63 Subpart F, G, H	NESHAP: Hazardous Organic Pollutants from SOCMI	x			Applies to process units that manufacture one or more of 365 SOCMI chemicals, located at a major source; and use or produce one or more of the 112 organic HAPS listed.	BzCl and TCPA processes are subject to HON.	Bz TCl
40 CFR 63 Subpart F, G, H (continued)					emissions from process vents, transfer operations, storage tanks, wastewater systems and LDAR program.		
40 CFR 63 Subpart M	NESHAP: Perchloroethylene Dry Cleaning		x			The plant does not dry clean.	
40 CFR 63 Subpart Y	NESHAP for Marine Vessel Loading and Unloading Operations		x		Applies to Marine Vessel loading and unloading operations that emit more than 10 tons/yr of a HAP or 25 tons/yr of total HAP's.	Barge operations emit less than 10 tons/yr of a HAP and less than 25 tons/yr of total HAP's.	
40 CFR 63	NESHAP for Wood Furniture Manufacturing (proposed)		x			The plant does not manufacture wood furniture.	
40 CFR 63	NESHAP: Stage I Gasoline Distribution Facilities (proposed)		x			The facility does not commercially distribute gasoline.	
40 CFR 63 Subpart CC	NESHAP: Petroleum Refineries (proposed)		x			The plant does not refine petroleum.	
40 CFR 63	NESHAP: Polymers and Resins, Group I (proposed)		x			The plant does not manufacture any listed resins.	
40 CFR 63	NESHAP: Polymers and Resins Group II (proposed)		x			The plant does not manufacture any listed resins.	

40 CFR 63	NESHAP: Surface Coating Operations in Shipbuilding and Ship Repair (proposed)		x			The plant does not build or repair ships.	
40 CFR 63	NESHAP: Magnetic Tape manufacturing industry (proposed)		x			The plant does not manufacture tape.	
40 CFR 63	NESHAP: Aerospace Industry (proposed)		x			The plant is not in the aerospace industry.	
40 CFR 63	NESHAP: Secondary Lead Smelters (proposed)		x			The plant does not smelt metals.	
40 CFR 63	NESHAP for Solid Waste Treatment, Storage, and Disposal Facilities (proposed)		x			Facility is not a TSDF.	
40 CFR 63	Standards of Performance for Hazardous Air Pollutants for the Mineral Wool Production Industry (proposed)		x			The plant does not produce wool.	
40 CFR 63	Oil and Gas Production MACT (proposed)		x			The plant does not produce oil or gas.	
40 CFR 63	NESHAP for Polymers and Resins, Group III (proposed)		x			The plant does not manufacture any listed resins.	
40 CFR 63	NESHAP: Polymers and Resins, Group IV (proposed)		x			The plant does not manufacture any listed resins.	
40 CFR 63	NESHAP: Steel Pickling, HCl Process (proposed)		x			The plant does not process HCl.	
40 CFR 63	NESHAP- Chromium Chemical Manufacturing (proposed)		x			The plant does not process chromium.	
40 CFR 63	NESHAP: Iron Foundries and Steel Foundries (proposed)		x			The plant is not an iron or steel foundry.	
40 CFR 63	NESHAP: Phosphate Fertilizers Productions industry (proposed)		x			The plant does not process phosphorus.	
40 CFR 63	NESHAP: Cyanide Chemical Manufacturing (proposed)		x			The plant does not produce cyancide.	
40 CFR 63	NESHAP: Primary Copper Smelters (proposed)		x			The plant does not smelt metals.	
40 CFR 63	NESHAP: Wood Treatment Industry		x			This plant does not treat wood products.	
40 CFR 68 Subpart C	Chemical Accident Prevention Provisions Regulated Substances for Accidental Release Prevention	x			Facilities that manage more than a threshold qty of any listed substance must 1)conduct a hazard assessment to assess the potential effects of an accidental release;2) implement a program for preventing accidental releases of regulated substances;	Plans will be developed and submitted to the appropriate agency within 3 years of promulgation of the final rule by the USEPA.	A

					3) implement a response program providing for specific actions to be taken in response to an accidental release; 4) register with the EPA; and 5) submit a risk management plan to regulatory and emergency response agencies. Facilities that manage unlisted extremely hazardous substance or less than a threshold qty of a listed substance must also comply with these requirements but in a less formal way. Mixtures of <1% by wt. of a toxic substance are exempt.		
40 CFR 70 (No Subpart)	Operating Permit State Programs	x			Requires operating permits for all sources regulated under the CAA and imposes a fee system to pay for permitting costs. Applicable in facility exceeds thresholds. Most states are deferring minor sources.	The facility will obtain a major source operating permit.	A
40 CFR 72-78	Acid Rain Program		x		Applies to fossil fuel fired electric utilities.	The plant is not an electric utility.	
40 CFR 82 Subparts A-G	Stratospheric Ozone Protection	x			Requires phaseout Class I and Class II ozone depleting compounds (ODCs) and recycling of ODCs during the servicing and disposal of air-conditioning and refrigeration equipment.	Replacement refrigerant program underway.	A

Benzyl Chloride Manufacturing Process

BzCl) and Hydrochloric Acid (
of light in four reactors.

HCl and HCl is diverted to the
storage and sale.

BzCl is put through the toluene stripper. The stripped toluene is recycled and sent to raw

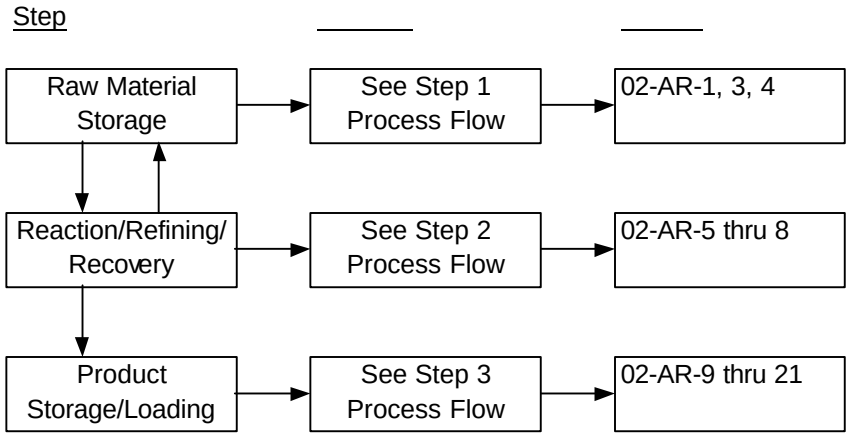
The

The HCl and
The

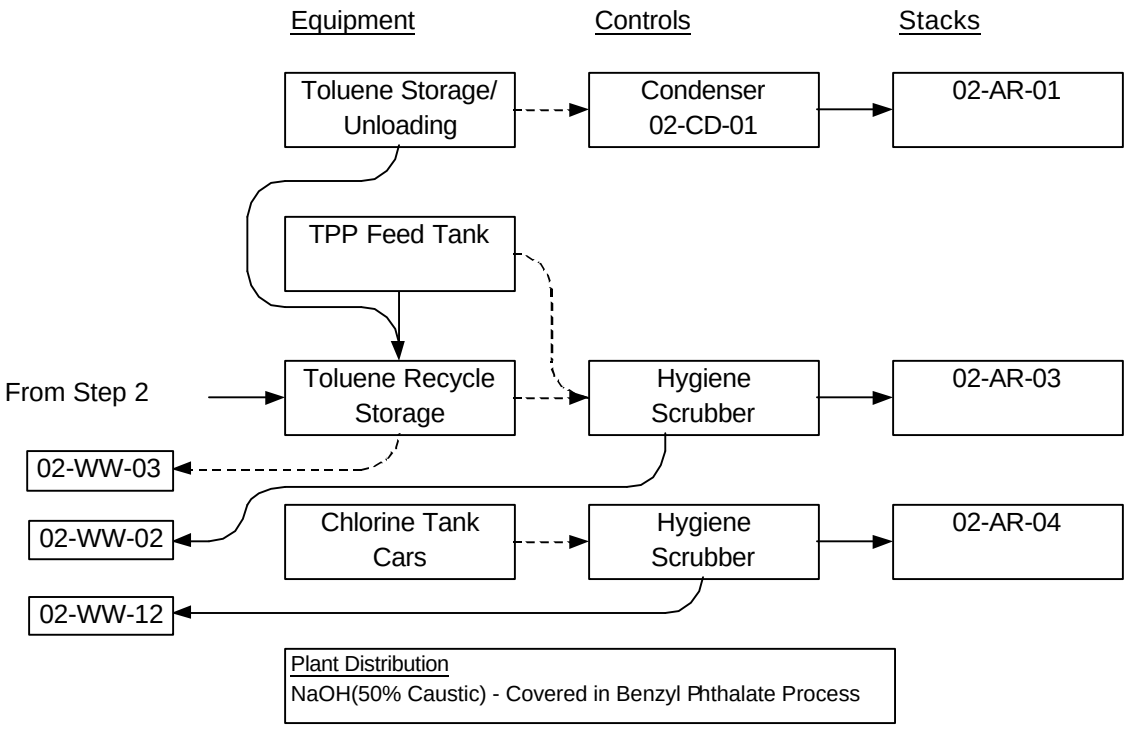
The benzaldehyde is currently being

The product BzCl are stored in the product storage. The
Benzyl Phthalate process. The
Benzyl Phthalate or WWTP processes.

BzCl Process Flow Diagram

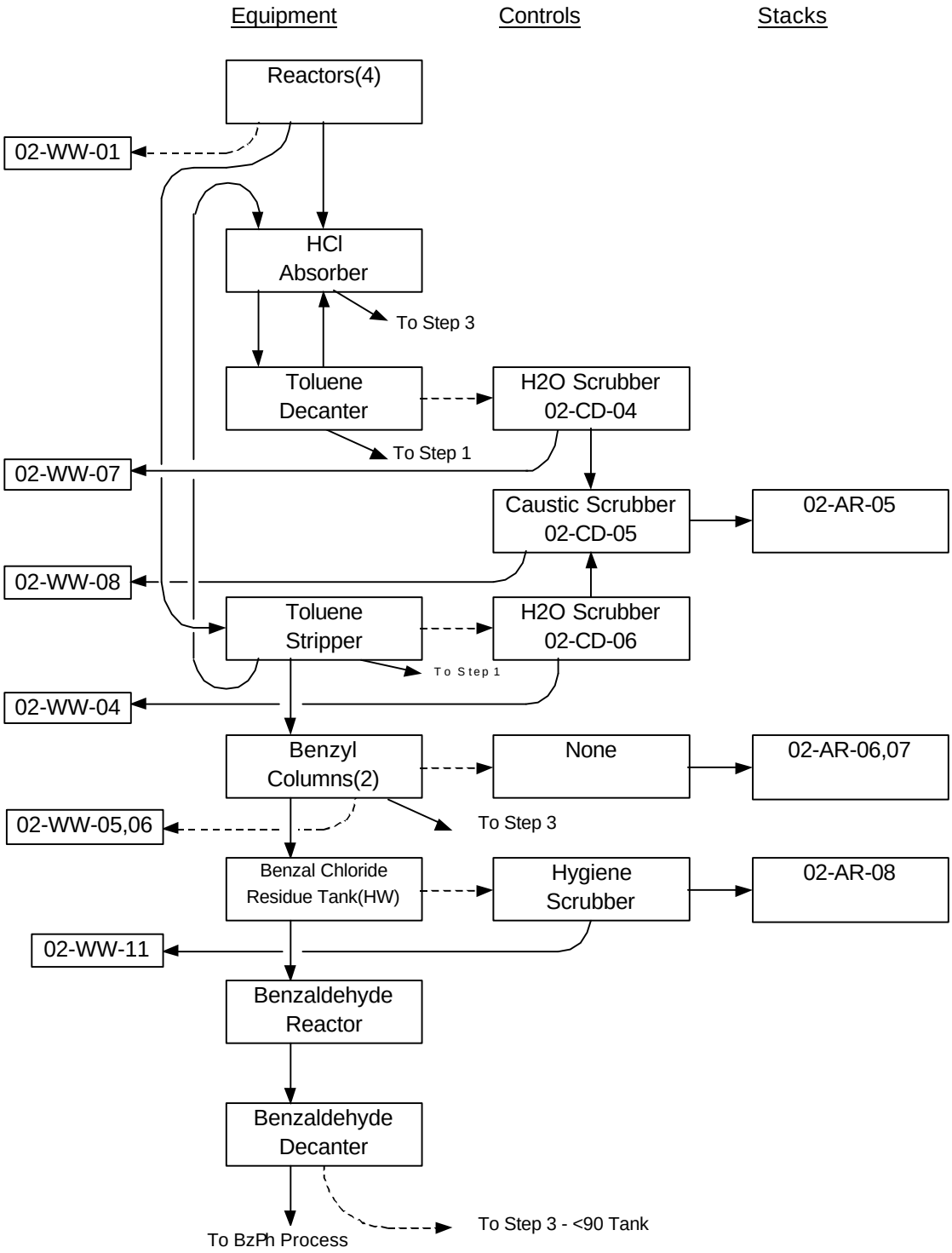


BzCl - Step 1



Modified 02/18/00

BzCl - Step 2
Reactor/Refining/Recovery System Step



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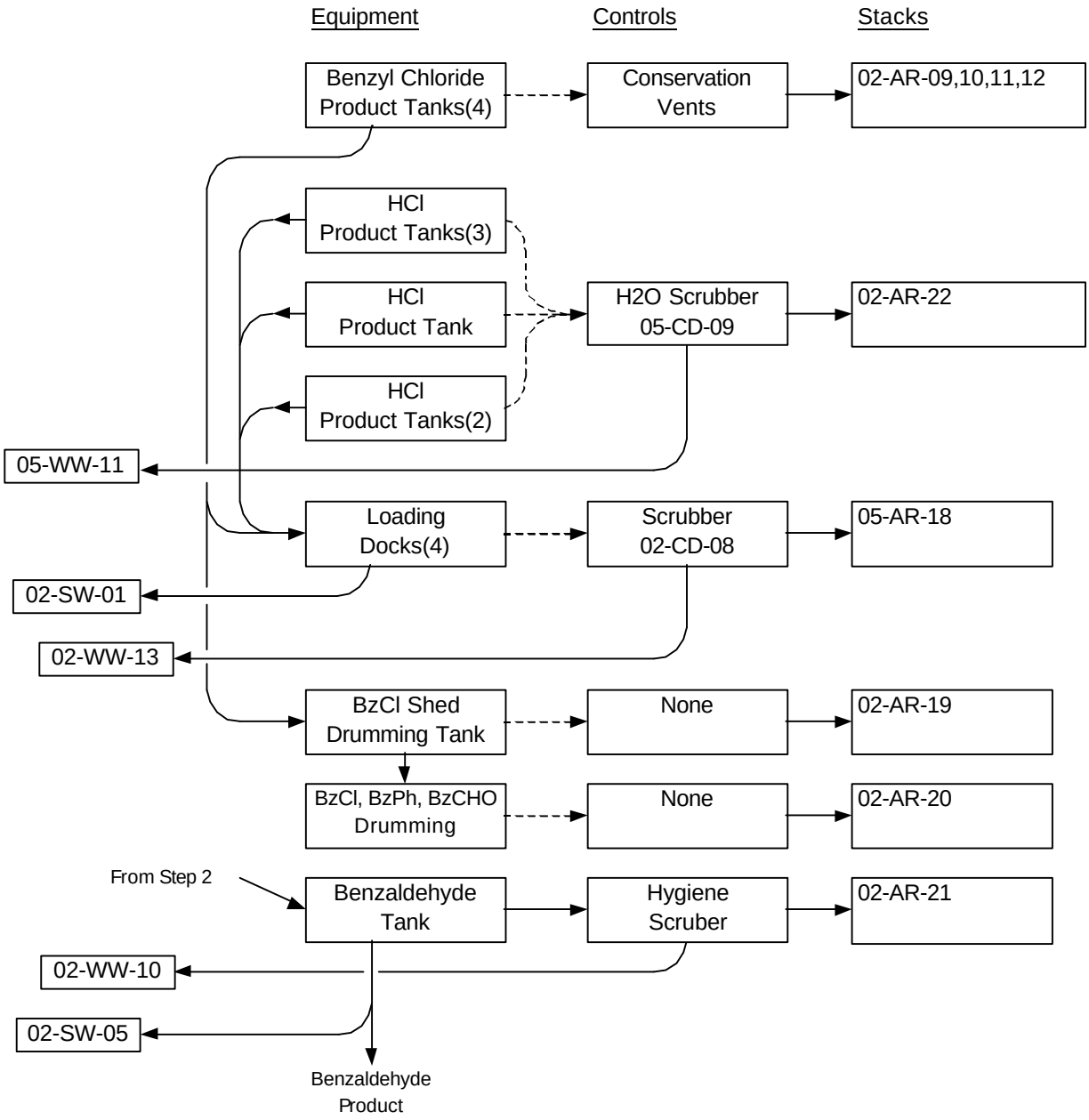
BzCl - Step 3
Product Storage/Loading Step(Scenario 2)



Modified 11/23/99, 02/18/00

1.C. Equipment, Control Device, and Source Sheet Information

Benzyl Chloride Manufacturing Equipment and Control Device List - Step 1

Raw Material Storage

The Raw Material Storage step of the Benzyl Chloride system consists of one toluene storage tank, one toluene recycle tank and one chlorine transfer area. The toluene is transferred to the facility by pump from tank trucks. The chlorine is directly unloaded from railroad tank cars. Sodium hydroxide is supplied to this process by plant distribution. The sodium hydroxide is incorporated into the Benzyl Phthalate Process. The recovered toluene from Step 2 is also sent to the toluene recycle tank.

Equipment	Capacity	Control
Toluene Storage Tank (30-STV-07)	720,000 gallons	Condenser
Toluene Recycle Tank (02-PTV-02)	2,195 gallons	Hygiene Scrubber

Insignificant Sources	Capacity	Control	Insignificance
Fire Foam Tank* (02-STV-01)	300 gallons	None	<10K Storage
Triphenylphosphine Storage Tank (02-STV-09)	350 gallons	None	<2K VOC Storage

Exempt Sources	Capacity	Control	Exempt Status
Chlorine Transfer Area (02-TTE-03)	4,000 gallons	Caustic Scrubber	Pressurized, Emergency Relief Only
Truck Unloading Spots* (02-TTE-02)	n/a	n/a	Vented through Equipment

* - Not listed in process flow diagram

Modified 02/18/00

Benzyl Chloride Manufacturing Equipment and Control Device List - Step 2

Reactor/Refining/Recovery System

The Reactor/Refining/Recovery System step of the benzyl chloride system consists of four reactors, one HCl recovery system, one toluene stripper, two benzyl refining columns, one benzal chloride storage tank, one benzaldehyde reactor, and one benzaldehyde decanter. The toluene and chlorine are reacted in this step. A further reacting of the co-product benzal chloride with water generates additional hydrochloric acid and benzaldehyde.

Equipment	Capacity	Control
Toluene Decanter (02-PRV-01e)	500 gallons	Scrubber System
Toluene Stripper (02-PRV-01d)	3,300 gallons	Scrubber System
Benzyl Refining Columns (2) (02-PRV-05, 02-PRV-06)	2,750 gallons each	None
Benzal Chloride Residue Tank (02-PTV-05)	15,000 gallons	None

Exempt Sources	Capacity	Exempt Status
Reactors (4) (02-PRV-01, 02-PRV-01a, 02-PRV-01b, 02-PRV-01c)	750 gallons each	No Direct Emissions
HCl Absorber (05-PRV-01)	120 ft^3	No Direct Emissions
Benzaldehyde Reactor (02-PRV-03)	1,000 gallons	Pressurized
Benzaldehyde Decanter (02-PRV-04)	800 gallons	No Direct/Indirect Emissions
Vent Catch Tank* (02-PTV-04)	1,200 gallons	Emergency Equipment Only
Carbon Tower C604* (05-PRV-03)	120 ft^3	Pressurized
Carbon Tower C605* (05-PRV-04)	120 ft^3	Pressurized
Sand Filter V666* (05-PRV-04)	20 ft^3	Pressurized

* - Not listed in process flow diagram

Benzyl Chloride Manufacturing Equipment and Control Device List - Step 3

Product Storage/Loading

The Product Storage/Loading step of the benzyl chloride system consists of five benzyl chloride storage tanks, five HCl storage tanks, one Benzaldehyde less than 90 day waste storage tank, and one loading dock.

Equipment	Capacity	Control
BzCl Storage Tank (1) (02-STV-05)	50,000 gallons	Conservation Vent
BzCl Storage Tanks (2) (02-STV-02, 02-STV-03)	25,000 gallons each	Conservation Vents
HCl Storage Tanks (3) (05-STV-01, 05-STV-01a, 05-STV-01b)	13,000 gallons each	Scrubber
HCl Storage Tank (05-STV-03)	85,000 gallons	Scrubber
HCl Storage Tanks (2) (05-STV-04, 05-STV-05)	29,000 gallons each	Scrubber
Loading Docks (4) (02-TTE-04, 02-TTE-05, 05-TTE-01, 05-TTE-02)	250 gallons/min	Scrubber
BzCl, BzPh, BzCHO Drumming (02-TTE-01)	55 gallons/min	None
Benzaldehyde Storage Tank (02-STV-08)	12,000 gallons	Hygiene Scrubber

Insignificant Sources	Capacity	Control	Insignificance
BzCl Storage Tank (1) (02-STV-04)	6,000 gallons	Conservation Vent	<10K Storage
BzCl Shed Drumming Tank (02-PTV-03)	6,000 gallons	Conservation Vent	<10K Storage

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1.D. Source Control Data Sheets

CONDENSER

Control Designation 02-CD-01

1. Type of Condenser Direct Contact
   A. Manufacturer: Liquid Carbonic Industrial Co. B. Model Number None
   C. Make: Storage Tank LN2 VRS D. Type of Cooling Medium Liquid N2

2. Composition of chemical substance(s) passing through condenser 11.52% Toluene, 88.48% Nitrogen

3. Vapor pressure of the substance or mixture 0.4 PSIA @ 70^{O} F

4. What are the minimum and maximum temperatures of inlet and exiting cooling liquid (^{o}F)?
   -300, -320 and –40, 40

5. What are the minimum and maximum flow rates of cooling medium (gal/min)? 0, 300 N2 Vapor

6. What are the minimum and maximum temperatures of inlet and outlet of condenser (^{o}C)?
   20, 120 and –70, -20

7. What is the maximum flow of gas mixture in condenser (CFM)? 326

8. Describe any monitoring devices and methods of recording data.

   Temperature Indication offgas from condenser

Stack Designation: 02-AR-01 Source Designation: 30-STV-07

SCRUBBER

Control Designation: 02-CD-04

1. Type of Scrubber (venturi, packed tower, etc.): Venturi
   A. Make: 8" Haveg 7014 B. Model No.
   C. Manufacturer: Schutte & Koerting

2. Is the scrubber used for particulate control or gas absorption? Gas Absorption
   A. If used for particulate control attach a particle size distribution analysis.
   B. If used for gas absorption; list all gases being absorbed by their chemical name. HCl, Cl2, Toluene

3. What is the liquid being used for absorption? Water

4. What are the chemical additives in the liquid? Give chemical names and their concentrations. How are they maintained? No Additives

5. What are the minimum and maximum values for pH? NA/NA

6. What are the minimum and maximum values for oxidation-reduction potential (mV)? NA/NA

7. Is the liquid once through or recirculated? Once-through

8. Is the scrubber equipped with a mist eliminator? Yes No XXX If yes what is the type and the dimension?

9. What are the minimum and maximum flow rates of the liquid (gal/min)? **9** (min), **22** (max)
   What type of monitor and recorder? Rotometer

10. What are the minimum and maximum flow rates of the gas (ft^3/sec)? 0 (Min), 2 (Max)
    What type of monitor and recorder? None

11. What is the minimum and maximum pressure drops across the scrubber(psi)? 0, 1
    What type of monitor and recorder? None

12. Relative direction of gas and liquid flow (co-current or counter- current)? Co-current

13. Venturi Scrubber*
    A. Length and diameter of throat? 44", 4.75"
    B. Mechanism of introduction of the liquids (nozzles, pipes, etc.)? Nozzle Type of nozzle(s)? Spray
    C. Inlet gas temperature (ºF)? 104 F (Max) Outlet (ºF)? 104 F (Max)
    D. Inlet and Outlet particle grain loading (grains/dscf)? NA

14. Packer Tower*
    A. Number of transfer units?
    B. Height of transfer units?
    C. Type and size of packing material?
    D. Height of packed section (ft.)?
    E. Total height of tower (ft.)? Diameter (ft)?

15. Sketch of Scrubber. On file

16. Does the scrubber have a fan? No

Stack Designation: 02-AR-05 Source Designation: 02-PRV-01e

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SCRUBBER

Control Designation: 02-CD-05

1. Type of Scrubber (venturi, packed tower, etc.): Venturi followed by packed tower
   A. Make: Custom Design B. Model No. WKH-1.8 Ejector, M-08 Packed Tower
   C. Manufacturer: Anderson 2000 Inc.

2. Is the scrubber used for particulate control or gas absorption? Gas Absorption
   A. If used for particulate control attach a particle size distribution analysis.
   B. If used for gas absorption; list all gases being absorbed by their chemical name. Chlorine, HCl

3. What is the liquid being used for absorption? Water (sodium hydroxide solution feed to maintain pH)

4. What are the chemical additives in the liquid? Give chemical names and their concentrations. How are they maintained? NaOH feed to maintain concentration typically over 15%.

5. What are the minimum and maximum values for pH? 6.5(Min), 14(Max)

6. What are the minimum and maximum values for oxidation-reduction potential (mV)? NA, NA

7. Is the liquid once through or recirculated? Recirculated

8. Is the scrubber equipped with a mist eliminator? Yes XXX No If yes, what is the type and the dimension?
   6" Kynar Mist Eliminator

9. What are the minimum and maximum flow rates of the liquid (gal/min)? at venturi: 100(min), 200 (max)
   at packed tower: 10 (min), 100 (max)
   What type of monitor and recorder? Magmeter, Process Computer Data Historian

10. What are the minimum and maximum flow rates of the gas (ft^3/sec)? 3 (Min), 30 (Max)
    What type of monitor and recorder? None

11. What is the minimum and maximum pressure drops across the scrubber?
    0.0722 design, 4.5" alarm 1 in. WC (Min), 10 in WC (Max)

    What type of monitor and recorder? Pressure Gage and Computer Memory

12. Relative direction of gas and liquid flow (co-current or counter- current)? Venturi: Co-current
    Packed Tower Countercurrent

13. Venturi Scrubber*
    A. Length and diameter of throat? See sketch in file
    B. Mechanism of introduction of the liquids (nozzles, pipes, etc.)? Nozzle Type of nozzle(s)? Spray
    C. Inlet gas temperature (ºF)? 150 F (Max) Outlet (ºF)? 120 F (Max)
    D. Inlet and Outlet particle grain loading (grains/dscf)? NA

14. Packer Tower*
    A. Number of transfer units? 10
    B. Height of transfer units? 11 inches
    C. Type and size of packing material? 1" PVC saddle packing
    D. Height of packed section (ft.)? 10
    E. Total height of tower (ft.)? 11'8" Diameter (ft)? 30" inside diameter

15. Sketch of Scrubber. On File

16. Does the scrubber have a fan? No

    Stack Designation: 02-AR-05 Source Designation: 02-PRV-01d, 02-PRV-01e

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SCRUBBER

Control Designation: 02-CD-06

1. Type of Scrubber (venturi, packed tower, etc.): Venturi
   A. Make: 6" Haveg 7014 B. Model No.
   C. Manufacturer: Schutte & Koerting

2. Is the scrubber used for particulate control or gas absorption? Gas Absorption
   A. If used for particulate control attach a particle size distribution analysis.
   B. If used for gas absorption; list all gases being absorbed by their chemical name. HCl, VOCs

3. What is the liquid being used for absorption? Water

4. What are the chemical additives in the liquid? Give chemical names and their concentrations. How are they maintained?

5. What are the minimum and maximum values for pH? 1 (Min), 8 (Max)

6. What are the minimum and maximum values for oxidation-reduction potential (mV)? NA/NA

7. Is the liquid once through or recirculated? Once-through

8. Is the scrubber equipped with a mist eliminator? Yes No XXX If yes what is the type and the dimension?

9. What are the minimum and maximum flow rates of the liquid (gal/min)? 5 (min), 24 (max)
   What type of monitor and recorder? Magnetic meter, computer memory

10. What are the minimum and maximum flow rates of the gas (ft^3/sec)? 0 (Min), 5 (Max)
    What type of monitor and recorder? None

11. What is the minimum and maximum pressure drops across the scrubber(psi)? 0 (min), 1 (max)
    What type of monitor and recorder? None

12. Relative direction of gas and liquid flow (co-current or counter- current)? Co-current

13. Venturi Scrubber*
    A. Length and diameter of throat? 30", 3.5"
    B. Mechanism of introduction of the liquids (nozzles, pipes, etc.)? Nozzle Type of nozzle(s)? Spray
    C. Inlet gas temperature (ºF)? 104 F (Max) Outlet (ºF)? 104 F (Max)
    D. Inlet and Outlet particle grain loading (grains/dscf)? NA

14. Packer Tower*
    A. Number of transfer units?
    B. Height of transfer units?
    C. Type and size of packing material?
    D. Height of packed section (ft.)?
    E. Total height of tower (ft.)? Diameter (ft)?

15. Sketch of Scrubber. On file

16. Does the scrubber have a fan? No

Stack Designation: 02-AR-05 Source Designation: 02-PRV-01d

SCRUBBER

Control Designation: 02-CD-08

1. Type of Scrubber (venturi, packed tower, etc.): Packed tower
   A. Make: B. Model No. "VCP Special" Counter-Current with Mist Eliminator
   C. Manufacturer: Ceilcote Company

2. Is the scrubber used for particulate control or gas absorption? Gas Absorption
   A. If used for particulate control attach a particle size distribution analysis.
   B. If used for gas absorption; list all gases being absorbed by their chemical name. HCl & BzCl

3. What is the liquid being used for absorption? Water

4. What are the chemical additives in the liquid? Give chemical names and their concentrations. How are they maintained?

5. What are the minimum and maximum values for pH? 1.0 , NA

6. What are the minimum and maximum values for oxidation-reduction potential (mV)? NA/NA

7. Is the liquid once through or recirculated? Recirculated

8. Is the scrubber equipped with a mist eliminator? Yes XXX No If yes, what is the type and the dimension?
   6" Polypropylene Mesh Pad

9. What are the minimum and maximum flow rates of the liquid (gal/min)? 16 (min), 56 (max) thru Packed Tower
   What type of monitor and recorder? None 1 (min) for makeup

10. What are the minimum and maximum flow rates of the gas (ft^3/sec)? 0 (Min), 12.5 (Max)
    What type of monitor and recorder? None

11. What is the minimum and maximum pressure drops across the scrubber? 1, 10 in WC
    What type of monitor and recorder? None

12. Relative direction of gas and liquid flow (co-current or counter- current)? Countercurrent

13. Venturi Scrubber*
    A. Length and diameter of throat?
    B. Mechanism of introduction of the liquids (nozzles, pipes, etc.)? Nozzle Type of nozzle(s)?
    C. Inlet gas temperature (ºF)? Outlet (ºF)?
    D. Inlet and Outlet particle grain loading (grains/dscf)?
    E.

14. Packer Tower*
    A. Number of transfer units? 8
    B. Height of transfer units? 11 inches
    C. Type and size of packing material? 1" Polypropylene Tellerettes
    D. Height of packed section (ft.)? 8
    E. Total height of tower (ft.)? 26 Diameter (ft)? 2

15. Sketch of Scrubber. On file

16. Does the scrubber have a fan? Yes

Stack Designation: 02-AR-18 Source Designation: 02-TTE-04, 02-TTE-05, 05-TTE-01 05-TTE-02

SCRUBBER

Control Designation: 05-CD-09

1. Type of Scrubber (venturi, packed tower, etc.): Venturi
   A. Make: Ejector Venturi B. Model No. Type 7014 3" Standard scrubber-separator system
   C. Manufacturer: Schutte & Koerting

2. Is the scrubber used for particulate control or gas absorption? Gas Absorption
   A. If used for particulate control attach a particle size distribution analysis.
   B. If used for gas absorption; list all gases being absorbed by their chemical name. HCl, air

3. What is the liquid being used for absorption? Water

4. What are the chemical additives in the liquid? Give chemical names and their concentrations. How are they maintained? N/A

5. What are the minimum and maximum values for pH? 1 (Min), 8 (Max)

6. What are the minimum and maximum values for oxidation-reduction potential (mV)? NA/NA

7. Is the liquid once through or recirculated? Once-through

8. Is the scrubber equipped with a mist eliminator? Yes If yes what is the type and the dimension? Schutte & Koerting separator. The dimensions are 5" x 12" x 10" high.

9. What is the minimum flow rate of the liquid (gal/min)? 1 (min)
   What type of monitor and recorder? Local flow meter

10. What are the minimum and maximum flow rates of the gas (ft^3/sec)? 0 (Min), 5 (Max)
    What type of monitor and recorder? None

11. What is the minimum and maximum pressure drops across the scrubber(psi)? 0 (min), 1 (max)
    What type of monitor and recorder? None

12. Relative direction of gas and liquid flow (co-current or counter- current)? Co-current

13. Venturi Scrubber*
    Length and diameter of throat? 0.5"
    Mechanism of introduction of the liquids (nozzles, pipes, etc.)? Nozzle Type of nozzle(s)? Spray
    C. Inlet gas temperature (ºF)? 115 F (Max) Outlet (ºF)? 115 F (Max)
    D. Inlet and Outlet particle grain loading (grains/dscf)? NA

14. Packer Tower*
    A. Number of transfer units?
    B. Height of transfer units?
    C. Type and size of packing material?
    D. Height of packed section (ft.)?
    E. Total height of tower (ft.)? Diameter (ft)?

15. Sketch of Scrubber. On file

Does the scrubber have a fan? No

What is the minimum pressure of the water to the scrubber? 1 psig

Stack Designation: 02-AR-13 Source Designation: 05-STV-01,01a,01b, 05-STV-03,04,05

Added 11/23/99, Modified 02/18/00

1.E. Process Stack Sheet Information

Stack Designation	Description	# of Sig Sources	New Jersey Stack #	Previous Certificate Numbers	Distance to Nearest Property Line (ft)	Diameter Dimension (in)	Discharge Height (ft)	Exit Temp (F)	Gas Discharge Rate (acfm)	Discharge Direction (Up,Down, Horizontal)
02-AR-01	Toluene Storage Tank	1	65	30208	500	2	30-40	< 40	< 326	Down
02-AR-03	Toluene Recycle Tank	1	145	085837	1200	2	8	55	5	Down
02-AR-05	Clorinator No. 1 112	8	142	082699 00531 000121	1500	10	28.5	120	1800	Up
02-AR-06	South Column Steam Jet	1	125	GRAN	1200	4	60	212	0.95	Horizontal
02-AR-07	North Column Steam Jet	1	63	CT 8381	1200	4	60	212	0.95 (max)	Horizontal
02-AR-08	Benzal Residue Tank	1	139	78901	1140	3	0	100	0.15	Down
02-AR-09	West BzCl Storage Tank	1	103	061769	1200	3	20	70	98	Horizontal
02-AR-10	East BzCl Storage Tank	1	104	CT-61770	1200	3	20	70	3.09	Horizontal
02-AR-12	North BzCl Storage Tank	1	64	8382	1300	3	19	<100	26.6(max)	Down
05-AR-18	HCl/BzCl Load&Scrub CT4S4	4	81	019245	1400	10	27	<100	793	Up
02-AR-20	BzCl,BzPh, BzCHO Drumming	1		GRAN	1300	4	20	Ambient	7(max)	Down
02-AR-21	Benzaldehyde Storage Tk	1	162	119449	1200	3	1	<120	<0.3	Down
05-AR-22	Combined HCl Storage Tanks	6	N/A	N/A	1200	1.5	56	60	4.02 (max)	Up

1.F. Raw Material/Contaminant List

VOCs

HAPs

Benzotrichloride	98-07-7
Benzyl Chloride	100-44-7
o, m, p xylenes	13300207
Propylene oxide	75-56-9
Toluene	108-88-3
Xylene (m)	108383
Xylene (o)	95476
Xylene (p)	106423
Chlorine	7782-50-5
Hydrochloric Acid	7647-01-0
Benzene	71-43-2

Other

Chlorodifluoromethane	75-46-6

Modified 11/23/99, 02/18/00

2.A., B., and C. Technical Information - Release and Alteration/Amendment Limits

Category:	Volatile Organic Compounds					OTHER	
Sub-Category:	HAPS				OTHERS	HAPS	
Constituent:	Toluene	Benzyl Chloride	Benzene	Propylene Oxide		HCl	Cl_2
Significant Sources	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr
02-PRV-01d	0.684	0.05	0.02		0.1	0.1	0.1
02-PRV-01e	2.736	0.2	0.08		0.4	0.4	0.4
02-PRV-05	0.2	0.79			0.1	0.1	0.1
02-PRV-06	0.2	0.79			0.1	0.1	0.1
02-PTV-02	No pound/hour, Storage Only						
02-PTV-05	No pound/hour, Storage Only						
02-STV-02	No pound/hour, Storage Only						
02-STV-03	No pound/hour, Storage Only						
02-STV-05	No pound/hour, Storage Only						
02-STV-08	No pound/hour, Storage Only						
02-TTE-01		0.29			0.52		
02-TTE-04		0.04					
02-TTE-05		0.07					
05-STV-01	No pound/hour, Storage Only						
05-STV-01a	No pound/hour, Storage Only						
05-STV-01b	No pound/hour, Storage Only						
05-STV-03	No pound/hour, Storage Only						
05-STV-04	No pound/hour, Storage Only						
05-STV-05	No pound/hour, Storage Only						
05-TTE-01						0.54	
05-TTE-02						0.27	
30-STV-07	No pound/hour, Storage Only						

Category:	Volatile Organic Compounds					OTHER	
Sub-Category:	HAPS				OTHERS	HAPS	
Constituent:	Toluene	Benzyl Chloride	Benzene	Propylene Oxide		HCl	Cl_2
Ton/Year Significant	2.521	9.131	0.7	0.15	4.9055	6.876	3.066
Ton/Year Insignificant	0.19	0.04	0	0	0	0	0
Ton/Year Fugitive	5	1	0	0.5	1.05	0.5	0.2
Lb/Product	1.70E-04	4.20E-05	8.60E-06	8.70E-06	3.70E-06	2.60E-06	6.00E-07

Modified 02/18/00

3. Compliance Plan

3.A. Applicable Requirements

The following storage and transfer VOC emission sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9, 16.2, 16.4

Significant Sources		Insignificant Sources	
30-STV-07	Toluene Storage Tank	02-STV-09	Triphenylphosphine Storage Tank
02-PTV-02	Toluene Recycle Tank		

In addition, storage tank 30-STV-07 is regulated under and subject to the terms and conditions of 40 CFR 63.123.

The following process VOC emission sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9, 16.16[b, c, d, g(1,4)], 16.22, 40 CFR 63.117(b), 40 CFR 63.118(c and h)

Significant Sources	
02-PRV-01e	Toluene Decanter
02-PRV-01d	Toluene Stripper
02-PRV-05	Benzyl Refining Column
02-PRV-06	Benzyl Refining Column

The following emission sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9

Significant Sources	
02-PTV-05	Benzal Chloride Residue Tank
02-STV-05	BzCl Storage Tank
02-STV-02	BzCl Storage Tank
02-STV-03	BzCl Storage Tank
02-STV-08	Benzaldehyde Storage Tank
05-STV-01	HCl Storage Tank
05-STV-01a	HCl Storage Tank
05-STV-01b	HCl Storage Tank
05-STV-03	HCl Storage Tank
05-STV-04	HCl Storage Tank
05-STV-05	HCl Storage Tank
05-TTE-01	Loading Dock
05-TTE-02	Loading Dock
02-TTE-04	Loading Dock
02-TTE-05	Loading Dock
02-TTE-01	BzCl, BzPh, BzCHO Drumming

In addition, storage tanks 02-STV-02, 02-STV-03, 02-STV-05, and 02-PTV-05 and loading docks 02-TTE-01, 02-TT-02 are all regulated under and subject to the terms and conditions of 40 CFR 63.123.

The following emission sources are regulated under and subject to the terms and conditions of 40 CFR 63.123

Insignificant Sources	
02-STV-04	BzCl Storage Tank
02-PTV-03	BzCl Shed Drumming Tank

No additional requirements beyond those referenced in the general section of the permit apply to these sources:

Insignificant Sources
02-STV-01 Fire Foam Tank

All sources and all associated equipment in this process are regulated pursuant 40 CFR 63 Subparts A, F, G & H.

3.B. Recordkeeping, Monitoring, and Reporting

1. Recordkeeping

The permittee shall record the following information at the process level:

a. The date of operation
b. Amount of fresh chlorine fed to the reactor system per day

The permittee shall record pressure drops, pH, and flow rates as per 2.a. below. The permittee shall also record calibration dates as per 2.b. below.

The permittee shall record on a monthly basis and running yearly total the throughput of each tank and transfer operation to comply with the limits with 3.C.1. below.

The permittee shall have readily available the startup, shutdown, malfunction plan as required pursuant to 40 CFR 63.6(e)(3).

Effective April 22, 1999, the permittee shall prepare and have readily available a "Maintenance Wastewater Plan" pursuant to 40 CFR 63.105.

Additional recordkeeping requirements pursuant to 40 CFR 63.152 and 40 CFR 63.181 shall also be maintained and readily available.

The permittee shall have readily available the documentation required to determine wastewater applicability pursuant to 40 CFR 63.144 and 40 CFR 63.147(f). The permittee has determined that all wastewater streams are Group 2 wastewater streams and therefore only those citations applicable to Group 2 streams shall apply.

These records shall be maintained on site for a minimum of five years after the last collection, in a permanently bound logbook or readily accessible files, readily accessible computer memory, or by another method acceptable to the Regional Enforcement Office. These records must also be available to representatives of the Department.

2. Monitoring

a. The following control devices shall be maintained and operated in accordance with the specifications defined in Section 1D of this process package. A double asterisk in the following text denotes that the monitoring equipment is not yet in place. Monitoring and recordkeeping requirements shall not be required for those parameters until a monitoring device is in place. Upon completion of installation of the monitoring device, monitoring and recordkeeping shall be required.

02-CD-01 Condenser for Toluene Storage/Unloading (30-STV-07)
The outlet temperature of the condenser shall be monitored and recorded at least once per

operating day. The temperature shall be maintained below –20 degrees Centigrade.

02-CD-04 Scrubber for HCl Absorber, Reactor System, and Toluene Decanter (02-PRV-01e)

Modified 06/01/99, 6/ 17/99, 11/23/99

The flow rate of the water at the inlet shall be monitored and recorded at least once per day. The flow rate shall be maintained above **9** gallons per minute. In the event that the flow meter cannot be read, a back-up reading for inlet water pressure shall be monitored and recorded at least once per day. The pressure shall be maintained above 0.5 psig.

02-CD-05** South Caustic Scrubber following 02-CD-04 and 02-CD-06 (02-PRV-01d, 02-PRV-01e)

Venturi – The flow rate of the water at the inlet shall be monitored and recorded at least once per day. The flow rate shall be maintained above 100 gallons per minute. In the event that the flow meter cannot be read, a back-up reading for inlet water pressure (circulation pump) shall be monitored and recorded at least once per day. The pressure shall be maintained between 50 - 130 psig.

Packed Tower - The flow rate of the water at the inlet and the pressure drop across the scrubber shall be monitored and recorded at least once per day. The flow rate shall be maintained between 10 and 100 gallons per minute. The pressure drop shall be maintained between 0.005 and 10 inches of water column. In the event that the flow meter cannot be read, a back-up reading for inlet water pressure (circulation pump) shall be monitored and recorded at least once per day. The pressure shall be maintained between 50 - 130 psig.

Make-up NaOH – A grab sample of the scrubbing medium shall be taken, analyzed, and recorded at least once per day. The caustic concentration of the scrubbing medium shall be maintained above 1%.

** A differential pressure meter to measure pressure drop across the packed tower shall be installed and operational within 180 days of the effective date of this permit.

02-CD-06 Scrubber for Toluene Stripper (02-PRV-01d)

The flow rate of the water at the inlet shall be monitored and recorded at least once per day. The flow rate shall be maintained above 5 gallons per minute. In the event that the flow meter cannot be read, a back-up reading for inlet water pressure shall be monitored and recorded at least once per day. The pressure shall be maintained above 1 psig.

02-CD-08** Scrubber for Loading Docks (02-TTE-04, 05, 05-TTE-01, 02)

The pressure of the supply pump to the inlet of the scrubber, the flow rate of the makeup water, and the pressure drop across the scrubber shall be monitored and recorded at least once per day if the loading docks are in use during that operating day. The pressure of the supply pump to the inlet of the scrubber shall be maintained between 10 and 50 psig. The flow rate of the makeup water shall be maintained at a minimum of 1 gallon per minute. The pressure drop across the scrubber shall be maintained between 0.005 and 10 inches of water column. In the event that the flow meter for the make-up water cannot be read, a back-up reading for make-up water pressure shall be monitored and recorded at least once per day. The pressure shall be maintained between 1 and 50 psig.

** A pressure meter to measure pressure drop across the scrubber, a pressure meter to measure the pressure of the water supply to the scrubber inlet, and a flow meter to measure makeup water shall be installed and operational within 180 days of the effective date of this permit.

Modified 06/01/99, 11/23/99, 03/17/00, **03/19/01**

05-CD-09 Scrubber for HCl Storage Tanks (05-STV-01,01a,01b, 05-STV-03,04,05)

The flow rate of the water to the scrubber shall be monitored and recorded at least once per day. The flow rate of the water to the scrubber shall be maintained at a minimum of 1 gallon per minute. In the event that the flow meter for the water to the scrubber cannot be read, a back-up reading for water pressure shall be monitored and recorded at least once per day. The pressure shall be maintained between 1 and 50 psig.

b. The permittee shall maintain and calibrate all monitors consistent with the manufacturers specifications or other written procedures. All specifications must be made available to a representative of the Department upon request.

c. Leak detection and repair shall be performed pursuant to 40 CFR 63 Subpart H. Specifically the following requirements for the following equipment types shall be performed:

40 CFR 63.163 Pumps in light liquid service
40 CFR 63.166 Sampling connection systems
40 CFR 63.167 Open-ended valves or lines
40 CFR 63.168 Valves in gas/vapor service and in light liquid service
40 CFR 63.169 Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service
40 CFR 63.174 Connectors in gas/vapor service and in light liquid service

d. A maximum of 248,800 pounds of chlorine shall be fed to the reactor system in any one day.

3. Reporting

Release Summary Reports: The permittee shall submit to the Department, beginning from the effective date of this permit, a summary of all releases from this process. The requirements of this report are defined in Section III.D.3.a. of this permit.

The permittee shall submit to the Department and the USEPA, Region II on a semi-annual basis periodic reports pursuant to 40 CFR 63.152. The submittals shall be received no later than May 18 and November 19 of each year.

The permittee shall submit to the Department and the USEPA, Region II on a semi-annual basis periodic reports pursuant to 40 CFR 63.182. The submittals shall be received no later than January 21 and July 21 of each year.

By September 20, 1999, the permittee shall submit to the Department and the USEPA, Region II a Notification of Compliance Status for wastewater streams pursuant to 40 CFR 63.146.

3.C. Special Conditions

1. Storage tank 30-STV-07, toluene storage tank, shall be limited to a maximum throughput of 85,300,000 pounds per calendar year of toluene.
   Storage tank 02-PTV-02, toluene recycle tank, shall be limited to a maximum throughput of 256,000,000 pounds per calendar year of toluene.
   Storage tank 02-PTV-05, benzal chloride residue tank, shall be limited to a maximum throughput of 15,000,000 pounds per calendar year of benzal chloride residue.
   Storage tank 02-STV-05, north benzyl chloride storage tank, shall be limited to a maximum throughput of 60,000,000 pounds per calendar year of benzyl chloride.
   Storage tanks 02-STV-02, 03, west & east benzyl chloride storage tanks, shall be limited to a maximum total throughput of 110,000,000 pounds per calendar year of benzyl chloride.

   Modified 06/17/99, 02/18/00

Storage tanks 05-STV-01, 01a, 01b, HCl shift tanks, shall be limited to a maximum total throughput of 126,000,000 pounds per calendar year of hydrochloric acid (32% HCl).
Storage tanks 05-STV-03, 04, 05 HCl storage tanks, shall be limited to a maximum total throughput of 126,000,000 pounds per calendar year of hydrochloric acid (32% HCl).
Storage tank 02-STV-08, benzaldehyde storage tank, shall be limited to a maximum throughput of 7,000,000 pounds per calendar year of benzaldehyde.

Drum loading area 02-TTE-01, BzCl/BzCHO/S-160, 261, 278 and other VOC blend products shall be limited to a maximum throughput of 50,000,000 pounds per calendar year of Santicizer 160, 18,400,000 pounds per calendar year of benzyl chloride, 4,400,000 pounds per calendar year of benzaldehyde, 20,000,000 pounds per calendar year of santicizer 261, 30,000,000 pounds per calendar year of santicizer 278, and 100,000,000 pounds per calendar year of other VOC blend products with a vapor pressure less than E^{-2}. In addition, loading area 02-TTE-01 shall be limited to an hourly maximum throughput of 55 gallons per minute of any of the above constituents.
Loading areas 05-TTE-01, 02 HCl loading docks, shall be limited to a maximum total throughput of 126,000,000 pounds per calendar year of hydrochloric acid (32% HCl).
02-TTE-04, 05, BzCl loading docks, shall be limited to a maximum total throughput of 60,000,000 pounds per calendar year of benzyl chloride.

2. The permittee shall install a manifold system to link hydrochloric acid storage tank vents, 05-STV-01, 05-STV-01a, 05-STV-01b, 05-STV-03, 05-STV-04, and 05-STV-05 to control device 05-CD-09 by December 1, 1999.

3. The permittee is authorized to deviate from operating parameters cited in 3.B.2. above for the control device listed below for a period of up to ten minutes during routine process maintenance. This maintenance shall include such activities as pump changes, checking safety interlocks and alarms, and back flushes.

    05-CD-05 South Caustic Scrubber

4. The permittee is authorized to operate the following storage tank without the associated control device for up to a seven-day period if the control device is non-operational. However, no material may be transferred into the tank during the seven-day period. The control device must be operational within seven days or the tank taken out of use.

    30-STV-07 Toluene Storage Tank

Modified 06/01/99, 11/23/99, 02/18/00

1. A. General Process Description

Tetrathal Manufacturing Process

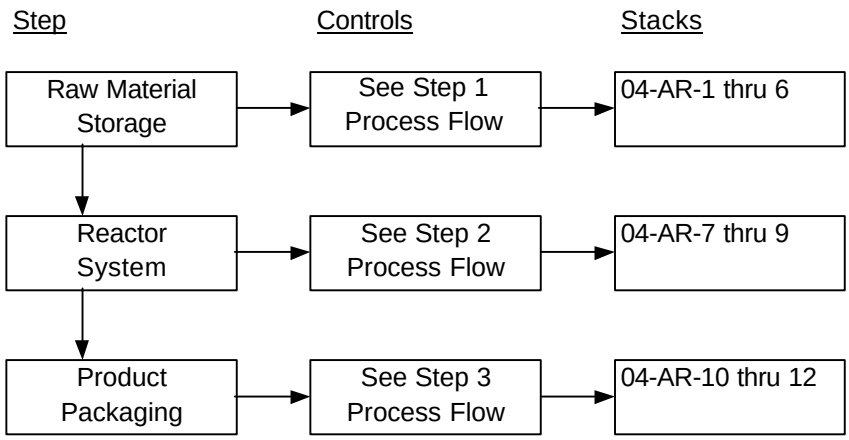
Tetrachlorophthalic anhydride (TCPA or Tetrathal) is produced by reacting chlorine with phthalic anhydride in the presence of molybdenum pentachloride catalyst in three reactors in series.

The offgas chlorine is scrubbed out and sent to the wastewater treatment plant

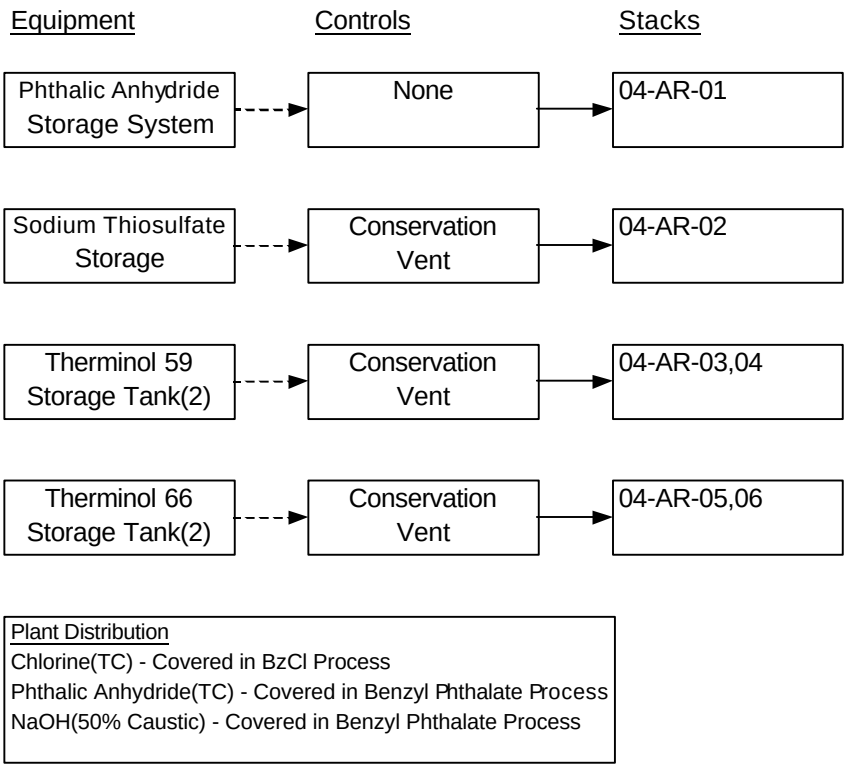
The molten TCPA is then degassed, flaked, cooled and packaged.

1.B. Process Flow Diagrams

TCPA Process Flow Diagram



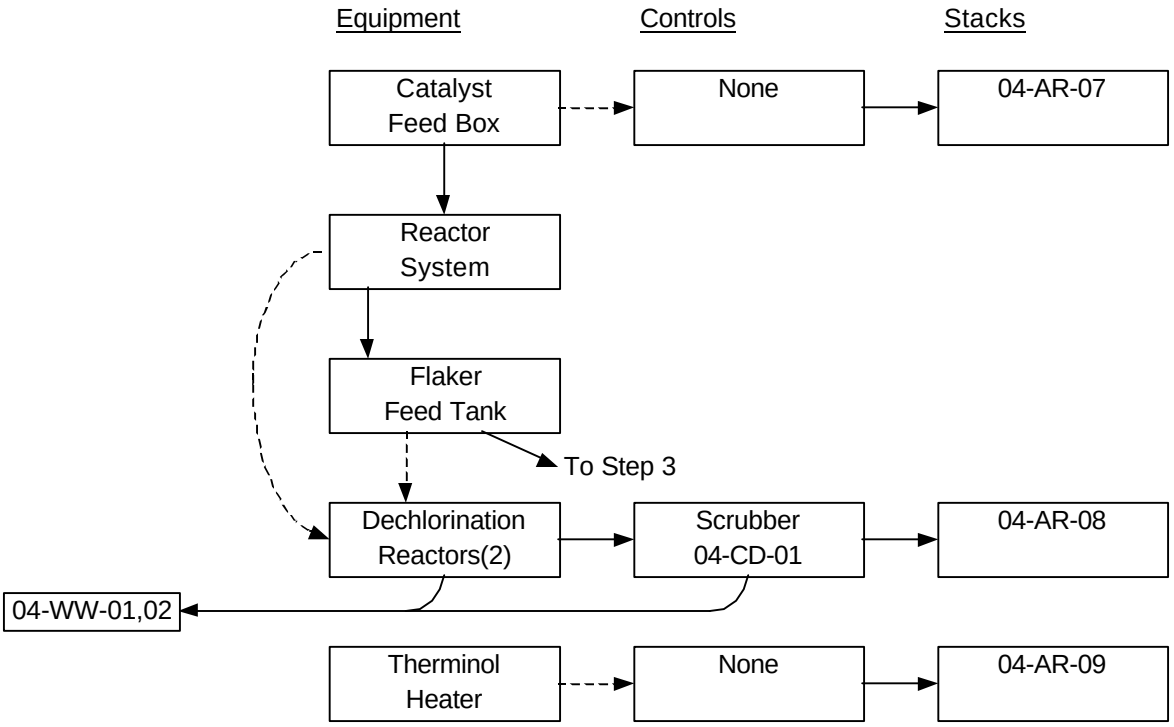
TCPA - Step 1
Raw Material Storage Step



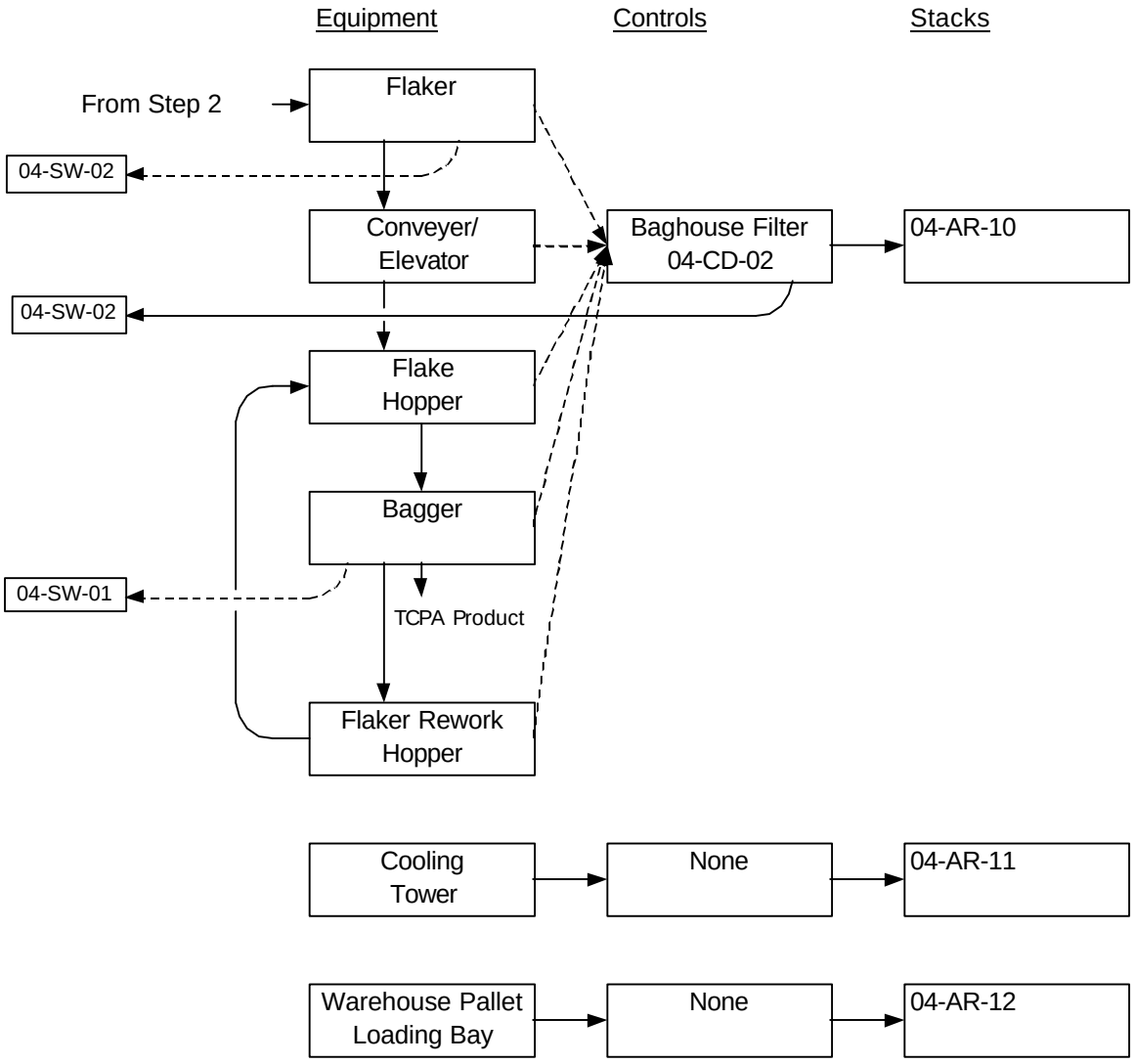
Plant Distribution
Chlorine(TC) - Covered in BzCl Process
Phthalic Anhydride(TC) - Covered in Benzyl Phthalate Process
NaOH(50% Caustic) - Covered in Benzyl Phthalate Process

Modified 02/18/00

TCPA - Step 2
Reactor Step



TCPA - Step 3
Packaging Step



1.C. Equipment, Control Device, and Source Sheet Information

Tetrathal (TCPA) Manufacturing Equipment and Control Device List - Step 1

Raw Material Storage

The Raw Material Storage step of the Tetrathal Manufacturing system consists of one phthalic anhydride storage and batch tank, one sodium thiosulfate storage tank, two Therminol 59 storage tanks and two Therminol 66 storage tanks. The phthalic anhydride is unloaded from railroad tank cars. The sodium thiosulfate is unloaded from trailers. The mobiltherm and the therminol are heat transfer oils and are supplied infrequently from drums. Chlorine, sodium hydroxide and some phthalic anhydride are supplied to this process by plant distribution. The chlorine storage is incorporated into the Benzyl Chloride Process and the sodium hydroxide and additional phthalic anhydride are incorporated into the Benzyl Phthalate Process.

Equipment	Capacity	Control
Phthalic anhydride storage system (1 source) (04-STV-01 + 04-STV-07)	10,000 gallons	None

Insignificant Sources	Capacity	Control	Insignificance
Sodium thiosulfate storage tank (04-STV-04)	9,500 gallons	Conservation Vent	<10K Storage
Therminol 59 (H) storage tank (04-STV-02)	1,000 gallons	Conservation Vent	<10K Storage
Therminol 59 (C) storage tank (04-STV-03)	1,000 gallons	Conservation Vent	<10K Storage
Therminol 66 (H) storage tank (04-STV-05)	1,000 gallons	Conservation Vent	**<10K Storage**
Therminol 66(C) storage tank (04-STV-06)	1,000 gallons	Conservation Vent	**<10K Storage**

Tetrathal (TCPA) Manufacturing Equipment and Control Device List - Step 2

Reactor System

The Reactor System of the Tetrathal Manufacturing Process consists of one catalyst feed box, one cascaded reactor system(3 tanks), a flaker feed tank, a dechlorination system, a process heater and an emergency scrubber. Phthalic anhydride, chlorine, molybdenum pentachloride catalyst and nitrogen as a purge are fed to the reactor. The offgas flows to the dechlorination system, which in turn feeds to the emergency scrubber. Tetrathal from the reactors is pumped to the flaker feed tank, which also vents to the emergency scrubber. The gas fired therminol heater heats therminol, which is used to heat process equipment. The therminol heater vents to the atmosphere. Molybdenum pentachloride is added manually to the reactor system through the catalyst feed (glove) box.

Equipment	Capacity	Control
Dechlorination Thiosulfate Reactor (04-PRV-03d)	1,000 gallons	Scrubber
Dechlorination Cl2 Reactor (04-PRV-03e)	3,000 gallons	Scrubber
Therminol Heater (04-PRV-01)	3MBTU/Hr Max Rate	None

Insignificant Sources	Capacity	Control	Insignificance
Catalyst Feed Box (04-PRV-05)	25 gallons/batch	Conservation Vent	<50 lb/hr Throughput

Exempt Sources	Capacity	Exempt Status
Reactor System (3 Tanks) (1 source)	2,500 gallons each	No Direct Emissions

(04-PRV-03a, 04-PTV-03b, 04-PRV-03c) Flaker Feed Tank (04-PTV-01)	2,100 gallons	No Direct Emissions

Modified 02/18/00, **5/8/00**

Tetrathal (TCPA) Manufacturing Equipment and Control Device List - Step 3

Product Packaging Step

The Product Packaging step to the Tetrathal Manufacturing System consists of a flaker, a cooler conveyer, a bucket elevator, a flake hopper, a bagger operation, a flaker recovery system, a cooling tower, a baghouse filter, and truck loading areas. The molten TCPA is converted to flakes in the flaker. The flakes are then cooled in the cooling conveyer and lifted to the bagging operation in the elevator. All of the equipment from the flaker to the flaker recovery system is vented to the baghouse filter. The cooling tower supplies cooling water to only the cooling conveyer.

Equipment	Capacity	Control
Flaker (04-PRV-02e)	6,000 lbs/Hr	Baghouse Filter
Cooling Conveyer (04-PRV-02)	6,000 Lbs/Hr	Baghouse Filter
Bucket Elevator (04-PRV-02c)	6,000 Lbs/Hr	Baghouse Filter
Bagger (04-PRV-02b)	6,000 Lbs/Hr	Baghouse Filter
Flake Hopper (04-PRV-02a)	4,560 gallons	Baghouse Filter
Flaker Rework Hopper (04-PRV-02d)	300 gallons	Baghouse Filter

Insignificant Sources	Capacity	Control	Insignificance
Cooling Tower (04-PCT-01)	750 gallons	None	<50 lb/hr additive

Exempt Sources	Capacity	Exempt Status
Warehouse Pallet Loading Bay (04-TTE-01)	n/a	No Direct/Indirect Emissions

1.D. Source Control Data Sheets CONTROL DATA SHEET

SCRUBBERS

Control Designation: 04-CD-01

1. Type of Scrubber (venturi, packed tower, etc.): Venturi followed by Packed Tower
   A. Make: Custom Design
   B. Manufacturer: Anderson

2. Is the scrubber used for particulate control or gas absorption? Gas Absorption
   A. If used for particulate control attach a particle size distribution analysis.
   B. If used for gas absorption; list all gases being absorbed by their chemical name. Chlorine

3. What is the liquid being used for absorption? >1% Caustic

4. What are the chemical additives in the liquid? Give chemical names and their concentrations. How are they maintained? >15% NaOH Solution, manually sampled weekly, analyzed and maintained by blowing down, or adding caustic, or water, as needed to keep the concentration above 15% NaOH.

5. What are the minimum and maximum values for pH? 11 (Min), 14 (Max)

6. What are the minimum and maximum values for oxidation-reduction potential (mV)? NA, NA

7. Is the liquid once through or recirculated? Recirculated

8. Is the scrubber equipped with a mist eliminator? Yes XXX No If yes what is the type and the dimension?
   6" Kynar Mist Eliminator

	Venturi	Packed Tower
9. What are the minimum and maximum flow rates of the liquid (gal/min)?	100 GPM	10 GPM
What type of monitor and recorder? Flow Meter to each step		Minimums

10. What are the minimum and maximum flow rates of the gas (ft^3/sec)? NA (Min),30 (Max)
    What type of monitor and recorder? None

	Packed Tower
11. What is the minimum and maximum pressure drops across the scrubber?	1 in. WC (Min), 20 in. WC (Max)
What type of monitor and recorder? Pressure Indicator	

12. Relative direction of gas and liquid flow (co-current or counter- current)? Venturi - Co-current
    Packed Tower - Counter current

13. Venturi Scrubber*
    A. Length and diameter of throat? 24", 4"
    B. Mechanism of introduction of the liquids (nozzles, pipes, etc.)? Nozzle Type of nozzle(s)? Hollow Cone
    C. Inlet gas temperature (ºF)? 150 F (Max) Outlet (ºF)? 150 F (Max)
    D. Inlet and Outlet particle grain loading (grains/dscf)? NA, NA

14. Packer Tower*
    A. Number of transfer units? Not Known
    B. Height of transfer units? Not Known
    C. Type and size of packing material? 1" PVC Saddle Packing
    D. Height of packed section (ft.)? 10 Feet
    E. Total height of tower (ft.)? 15.3 Diameter (ft)? 2.5

15. Sketch of Scrubber. In application

16. Does the scrubber have a fan? No

* If Scrubber is not a venturi or packed tower, please answer any of the above questions pertaining to your design.*

Stack Designation: 04-AR-08 Source Designation: 04-PRV-03e, 04-PRV-03d

CONTROL DATA SHEET
DUST COLLECTOR

Control Designation: 04-CD-02

Manufacturer and Model: Micro Pulsaire

Specify: Baghouse

Number of Bags or Cartridge: 100 Size of Bags or Cartridge: 96 inches long

Total Bag or Cartridge Area: 1000 $ft.^2$ Maximum Capacity (ACFM): 5,000

Bag Fabric: Filament Polyester with Teflon Membrane Fabric Weight: 16 oz/yd^2

Weave: 3 X 1 Twill Finish: Teflon Membrane

Efficiency (%): 99 Air to Cloth Ratio: 5,000 ACFM/1,000 ft^2 = 5 ft/min max

Maximum Bag Temperature Capability (ºF): 300

Temperature of inlet (ºF): 275

Moisture Content of Inlet (%): Ambient

Is the Collector Insulated? No

Method of Bag Cleaning: Pulse Jet

Operating Pressure Drop (inches of water): Min 1.0, Max 15.0

What is the type of Monitor and Recorder? Field Mounted Pressure Gauge

Attach a Particle Size Distribution Analysis. n/a

Stack Designation: 04-AR-10 Source Designation: 04-PRV-02, 04-PRV-02a, 04-PRV-02b, 04-PRV-02c 04-PRV-02d, 04-PRV-02e

Modified 02/18/00

Equipment Supplemental Form

1. Facility Description of Boiler: Therminol Heater (04-PRV-01)

2. Manufacturer: Eclipse Lookout Co. Make: Horizontal Liquid Tube Heater
   Model: 200-4 MC-LT-MK-4 50L-Pro-TRI Nemm 4 Heater

3. Anticipated Date of Installation or Alteration: N/A

4. Boiler Type (Underline all that apply) Utility Boiler Non-utility Boiler Fire Tube
   Water Tube Package Field Erected

5. Maximum Gross Heat Input (MMBtu/hr): 3

6. Type Stream Output(lb/hr): N/A

7. Fuel to be Fired

Primary Fuel (Specify):	Natural Gas	Secondary Fuel (Specify):	
Maximum Annual Fuel Use:	25,764,702 CF	Maximum Annual Fuel Use:	
Heating Value (Btu/lb Fuel):	1,020 Btu/CF	Heating Value (Btu/lb Fuel):	
% Sulfur in Fuel:	0	% Sulfur in Fuel:	

8. Air Pollution Control Technologies (Underline All That Apply)

Low NOx Burners (LNB)		Particulate Control – Filtration	
Staged Air Combustion		Electrostatic Precipitator	
Scrubber		Catalytic Oxidizer	
Selective Non-Catalytic Reduction (SNCR)		Other (Specify):	
Selective Catalytic Reduction (SCR)			
Flue Gas Recircualtion (FGR), Specify % FGR		Induced Draft	Forced Draft

1.E. Process Stack Sheet Information

Stack Designation	Description	# of Sig Sources	New Jersey Stack #	Previous Certificate Numbers	Distance to Nearest Property Line (ft)	Diameter Dimension (in)	Discharge Height (ft)	Exit Temp (F)	Gas Discharge Rate (acfm)	Discharge Direction (Up,Down, Horizontal)
04-AR-01	PA Storage Tank	1		Gran	1500	4	15	<293	6.9(max) 0.2(avg)	Horizontal
04-AR-08	Reactor System	4	147	93527	1500	10	28.5	<150	<1800	Up
04-AR-09	Therminol Heater	1	124	73725	1500	18	10	<600	<1500	Up
04-AR-10	Cooler Conveyor(Baghouse)	4		Gran	1500	12 x 21	37	<300	<5000	Horizontal

1.F. Raw Material/Contaminant List

VOCs
Particulate
CO
NOx
SOx
HAPs

Hexachlorobenzene	118-74-1
Phthalic Anhydride	85-44-9
Chlorine	7782-50-5
Hydrochloric Acid	7647-01-0

Other

Nitrogen	7727-37-9
Methane	74-82-8

2.A., B., and C. Technical Information - Release and Alteration/Amendment Limits

Category:	Particulates			VOCs		OTHER			CO	NOx	SO2
Sub-Category:	HAPS		OTHERS	HAPS	OTHERS	HAPS		Other			
Constiuent:	Hexachlorobenzene	PA		PA		Chlorine	HCl	Methane			
Sinificant Sources	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr
04-PRV-01			0.053		Below Threshold			0.012	0.093	0.441	0.003
04-PRV-02	0.03		0.60			0.03	0.08				
04-PRV-02a	0.006		0.12			0.004	0.015				
04-PRV-02b	0.01		0.10			0.002	0.01				
04-PRV-02c	0.03		0.60			0.03	0.08				
04-PRV-02d	0.001		0.024			0.001	0.003				
04-PRV-02e	0.05		0.96			0.04	0.12				
04-PRV-03d						0.02					
04-PRV-03e					Below Threshold						
04-STV-01	No pound/hour, Storage Only										

Category:	Particulates			VOCs		OTHER			CO	NOx	SO2
Sub-Category:	HAPS		OTHERS	HAPS	OTHERS	HAPS		Other			
Constiuent:	Hexachlorobenzene	PA		PA		Chlorine	HCl	Methane			
Ton/Year Significant	0.16	0.40	3.23	0.40	0.10	0.24	0.60	0.05	0.41	1.93	0.01
Ton/Year Insignificant	0.00	0.00	0.00	0.00	0.38	0.00	0.04	0.00	0.00	0.00	0.00
Ton/Year Fugitive	0.10	0.20	0.50	0.20	0.50	0.01	0.10	0.10	0.00	0.00	0.00
Lb/Product	4.51E-05	1.74E-04	N/A	1.74E-04	2.58E-04	6.87E-05	2.25E-04	N/A	N/A	N/A	N/A

3. Compliance Plan

3.A. Applicable Requirements

The following **combustion** source is regulated under and subject to the terms and conditions of N.J.A.C. 7:27-3.2(a, b, c), 3.6, 4.2(a), 8.2(a), 8.3(a through e, h, i, and j), 8.4, 8.9

Significant Sources
04-PRV-01 Therminol Heater

The following **particulate** emission source types are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-6.2(a and d), 8.2(a), 8.3(a through e, h, i and j)

Significant Sources		Insignificant Sources	
04-PRV-02	Cooling Conveyer	04-PRV-05	Catalyst feed box
04-PRV-02a	Flake Hopper		
04-PRV-02b	Bagger		
04-PRV-02c	Bucket Elevator		
04-PRV-02d	Flake Rework Hopper		
04-PRV-02e	Flaker		

In addition, storage tank 04-STV-01 is regulated under and subject to the terms and conditions of 40 CFR 63.123.

The following emission sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9

Significant Sources

04-STV-01	Phthalic Anhydride Storage System
04-PRV-03d	Dechlorination Thiosulfate reactor
04-PRV-03e	Dechlorination Cl2 reactor

No additional requirements beyond those referenced in the general section of the permit apply to these sources:

Insignificant Sources

04-STV-04	Sodium thiosulfate storage tank
04-PCT-01	Cooling Tower
04-STV-05	Therminol 66 (H) storage tank
04-STV-05	Therminol 66 (C) storage tank
04-STV-02	Therminol 59 (H) storage tank
04-STV-03	Therminol 59 (C) storage tank

All sources and all associated equipment in this process are regulated pursuant 40 CFR 63 Subparts A, F, G & H.

3.B. Recordkeeping, Monitoring, and Reporting

1. Recordkeeping

The permittee shall record the following for **particulate, VOC and Other** emissions:

a. The date of operation
b. The number of batches and the time in hours of each batch
c. Amount of phthalic anhydride fed to the reactor system per batch

The permittee shall record the following for the Therminol Heater(04-PRV-01) on a yearly basis:

a. The quantity of natural gas burned

The permittee shall record on a monthly basis and running yearly total the throughput of each tank and transfer operation to comply with the limits with 3.C.1. below.

Modified 02/18/00

The permittee shall record pressure drops, caustic concentrations, and flow rate as per 2.a. below. The permittee shall also record calibration dates as per 2.b. below.

The permittee shall have readily available the startup, shutdown, malfunction plan as required pursuant to 40 CFR 63.6(e)(3).

Effective April 22, 1999, the permittee shall prepare and have readily available a "Maintenance Wastewater Plan" pursuant to 40 CFR 63.105.

Additional recordkeeping requirements pursuant to 40 CFR 63.152 and 40 CFR 63.181 shall also be maintained and readily available.

The permittee shall have readily available the documentation required to determine wastewater applicability pursuant to 40 CFR 63.144 and 40 CFR 63.147(f). The permittee has determined that all wastewater streams are Group 2 wastewater streams and therefore only those citations applicable to Group 2 streams shall apply.

These records shall be maintained on site for a minimum of five years after the last collection, in a permanently bound logbook or readily accessible files, readily accessible computer memory, or by another method acceptable to the Regional Enforcement Office. These records must also be available to representatives of the Department.

2. Monitoring

a. The following control devices shall be maintained and operated in accordance with the specifications defined in Section 1D of this process package.

04-CD-02 Baghouse Filter for Packaging Step (04-PRV-02, 2a, 2b, 2c, 2d,2e)

The pressure drop shall be recorded at least once per batch during production while venting to the baghouse. The pressure dropped shall be maintained between 1 and 15 inches of water.

04-CD-01 Scrubber for Dechlorination Reactors (04-PRV-03d, 3e)

Venturi – The flow rate of the water at the inlet shall be monitored and recorded at least once per day. The flow rate shall be maintained at or above 100 gallons per minute. In the event that the flow meter cannot be read, a back-up reading for the inlet water pressure (circulation pump) shall be monitored and recorded at least once per day. The pressure shall be maintained between 50 and 130 psig.

Packed Tower - The flow rate of the water at the inlet and the pressure drop across the scrubber shall be monitored and recorded at least once per day. The flow rate shall be maintained at or above 10 gallons per minute. The pressure drop across the packed tower shall be maintained between 0.005 and 20 inches of water column. In the event that the flow meter cannot be read, a back-up reading for the inlet water pressure (circulation pump) shall be monitored and recorded at least once per day. The pressure shall be maintained between 50 and 130 psig.

Make-up Caustic – A grab sample of the scrubbing medium shall be taken, analyzed, and recorded at least twice per week. The caustic concentration shall be maintained above 1%.

b. The permittee shall maintain and calibrate all monitors consistent with the manufacturers specifications or other written procedures. All specifications must be made available to a representative of the Department upon request.

e. Leak detection and repair shall be performed pursuant to 40 CFR 63 Subpart H. Specifically the following requirements for the following equipment types shall be performed:

40 CFR 63.166 Sampling connection systems

40 CFR 63.167 Open-ended valves or lines

40 CFR 63.169 Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service

d. A maximum of 15,000 pounds of phthalic anhydride shall be fed to the reactor system in any one batch.

Modified 02/18/00, 03/17/00

e. The permittee shall monitor continuously the quantity of natural gas burned in the Therminol Heater (04-PRV-01).

3. Reporting

Release Summary Reports: The permittee shall submit to the Department, beginning from the effective date of this permit, a summary of all releases from this process. The requirements of this report are defined in Section III.D.3.a. of this permit.

The permittee shall submit to the Department and the USEPA, Region II on a semi-annual basis periodic reports pursuant to 40 CFR 63.152. The submittals shall be received no later than May 18 and November 19 of each year.

The permittee shall submit to the Department and the USEPA, Region II on a semi-annual basis periodic reports pursuant to 40 CFR 63.182. The submittals shall be received no later than January 21 and July 21 of each year.

By September 20, 1999, the permittee shall submit to the Department and the USEPA, Region II a Notification of Compliance Status for wastewater streams pursuant to 40 CFR 63.146

3.C. Special Conditions

1. Storage tank 04-STV-01, phthalic anhydride storage tank, shall be limited to a maximum throughput of 8,400,000 pounds of phthalic anhydride per calendar year.

2. The maximum heat input for the Therminol Heater (04-PRV-01) is 3 MMBtu/hr. The heater (04-PRV-01) shall be limited to 25,764,702 cubic feet of natural gas per year.

3. The permittee is authorized to deviate from operating parameters cited in 3.B.2. above for the control device listed below for a period of up to ten minutes during routine process maintenance. This maintenance shall include such activities as pump changes, checking safety interlocks and alarms, and back flushes.

    04-CD-01 Reactor System Emergency Scrubber

Modified 06/01/99

1.A. General Process Description

Phosphate Esters Process

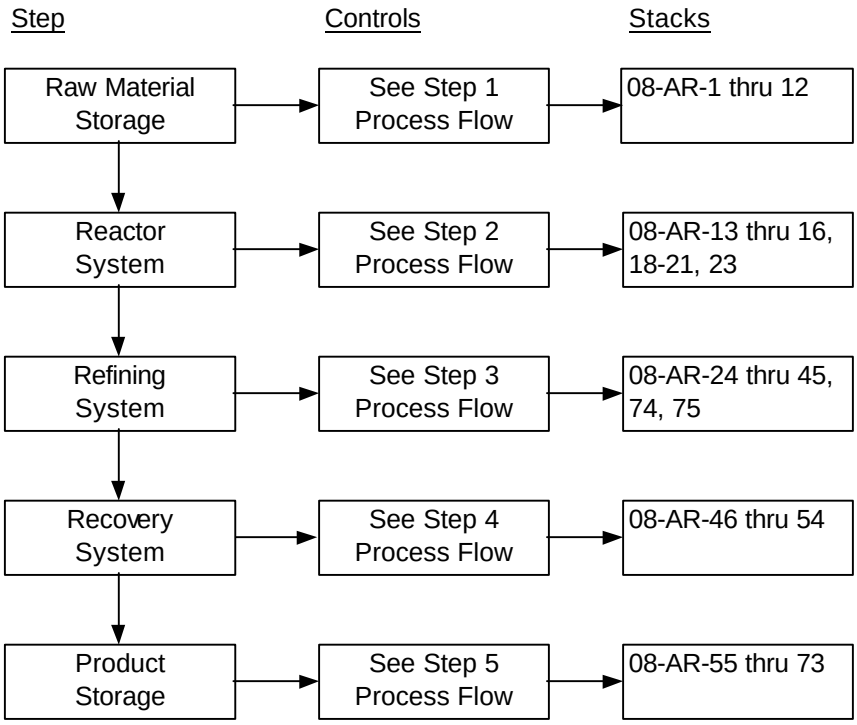
Phosphate Esters and byproduct HCl is produced by reacting alcohol, phosphorus oxychloride, caustic, and phenol in a series of reactions.

Several recovery and refinery steps purify and consolidate the product into a sellable product.

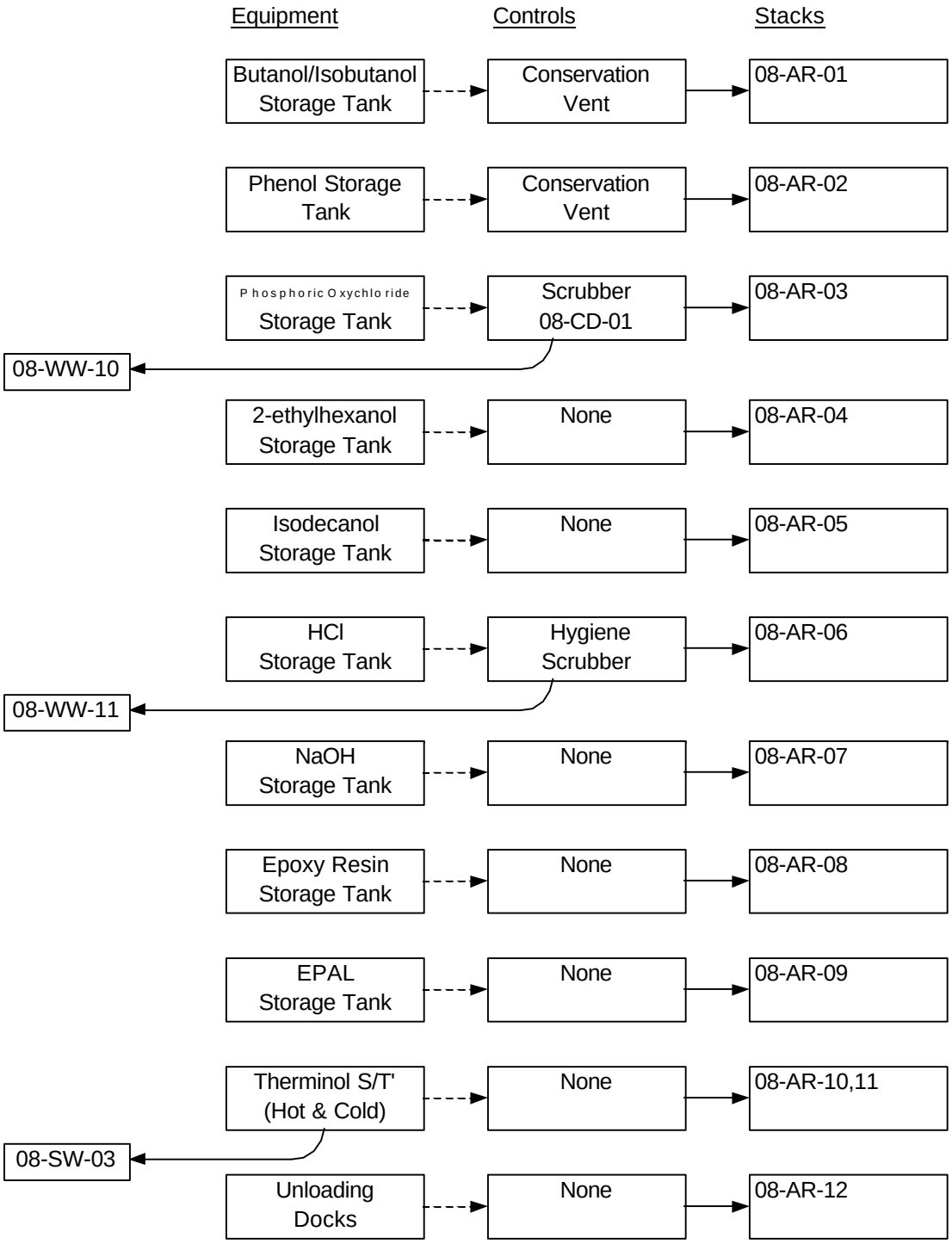
The product has different characteristics depending on the alcohol used up front. Four distinct products S-148, S-141, S-2148, and DBPP are made in Scenario 1. TiBP is made in Scenario 2.

1.B. Process Flow Diagrams

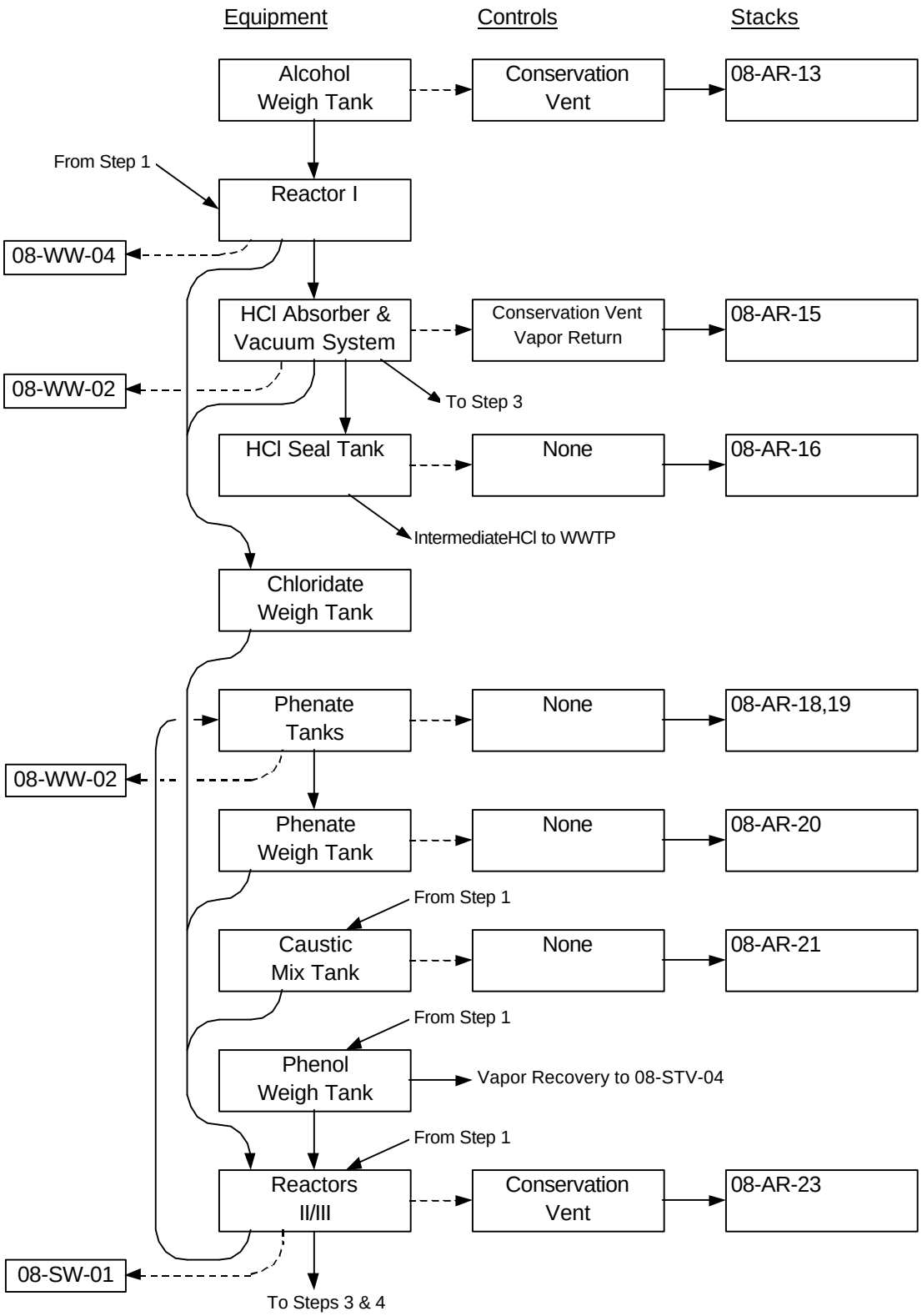
Phosphate Esters Process Flow Diagram



Phosphate Esters - Step 1
Raw Material Storage Step

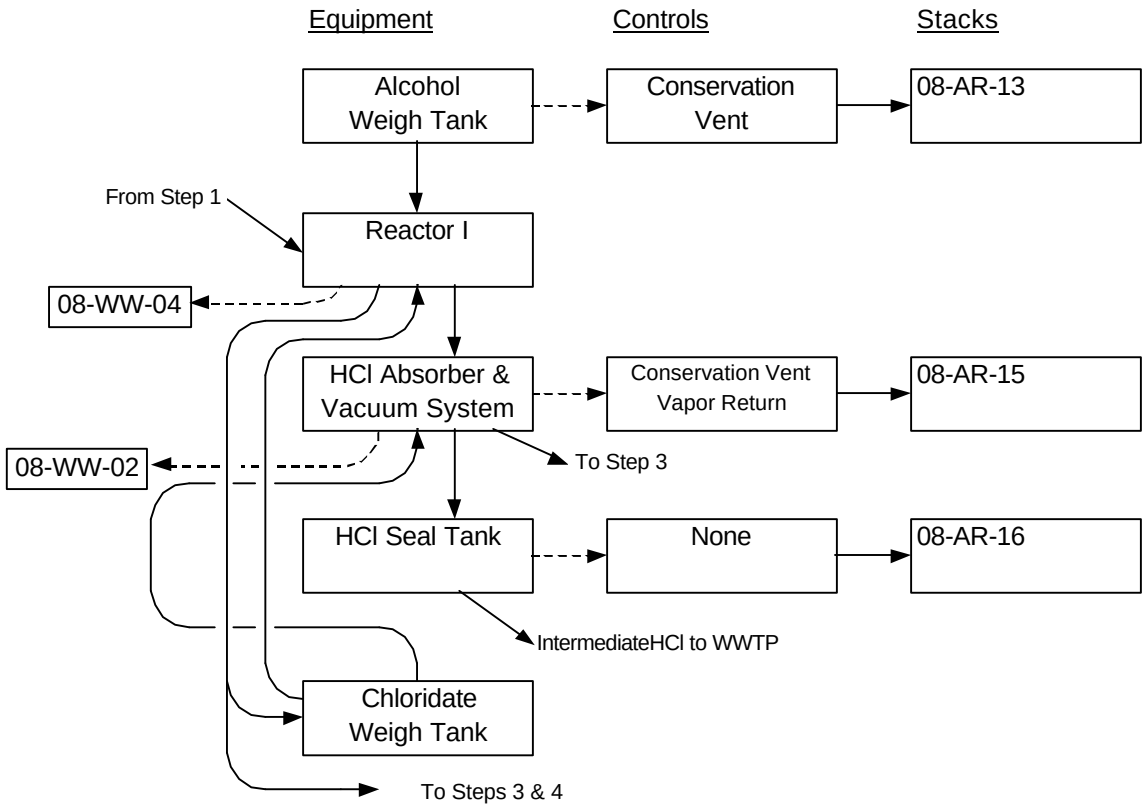


Phosphate Esters - Step 2
Reactor Step(Scenario 1)



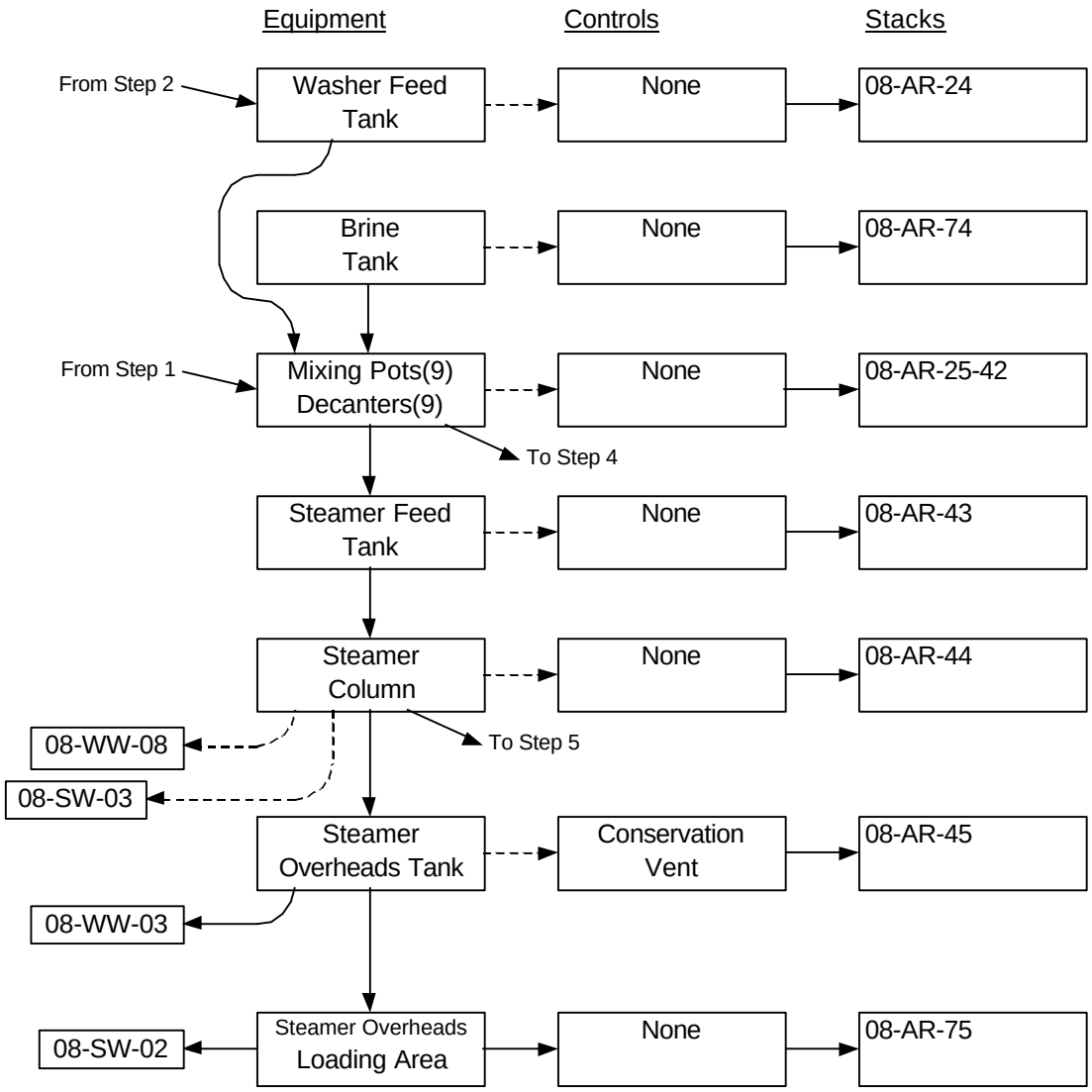
Modified 02/18/00

Phosphate Esters - Step 2
Reactor Step(Scenario 2)

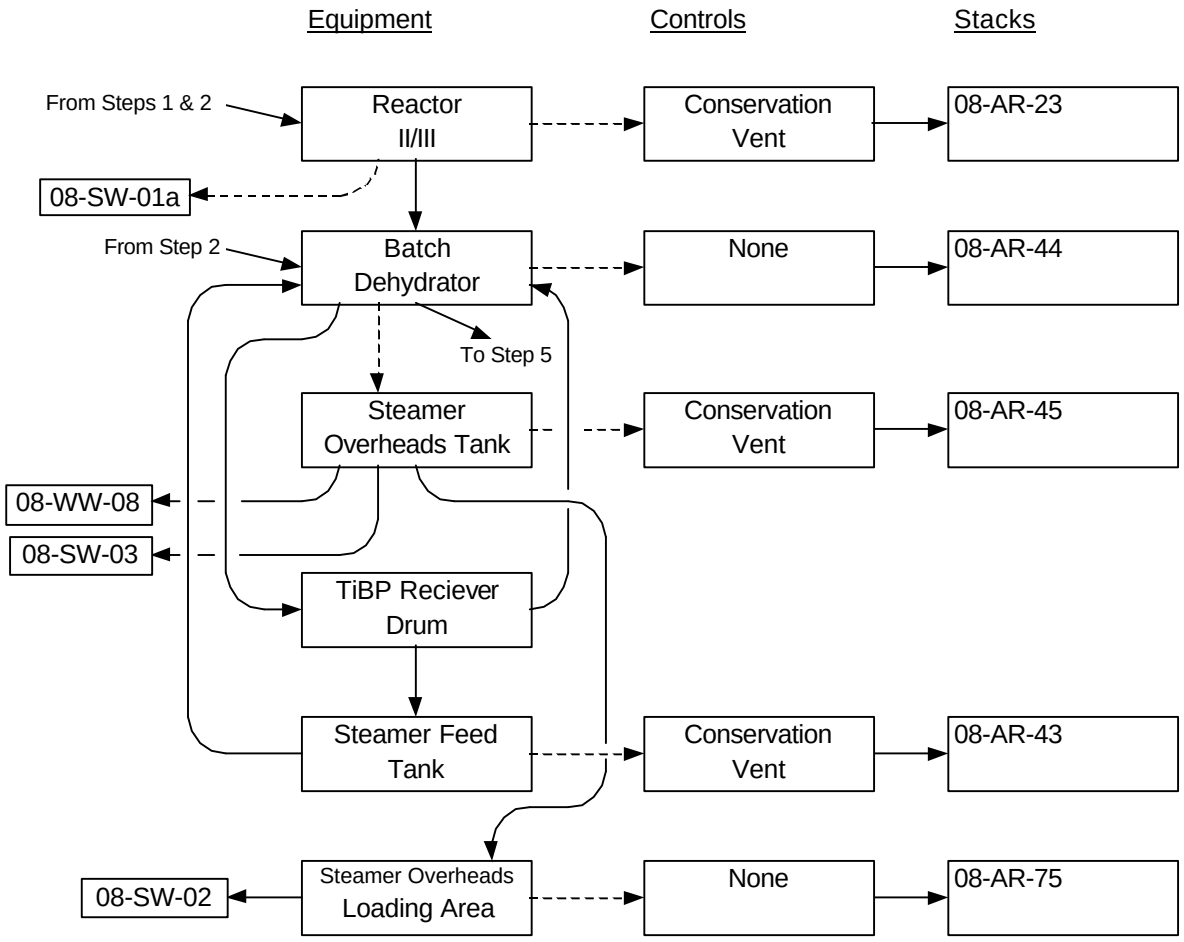


Modified 02/18/00

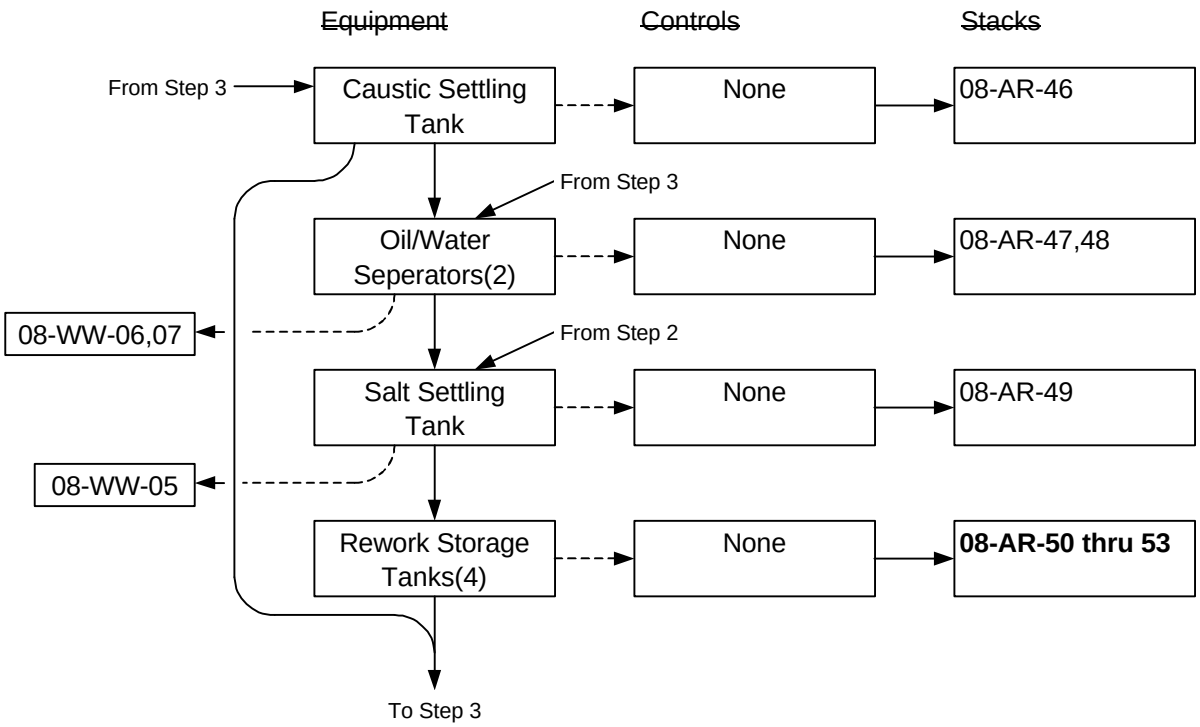
Phosphate Esters - Step 3
Refining/Recovery Step(Scenario 1)



Phosphate Esters - Step 3
Refining/Recovery Step(Scenario 2)

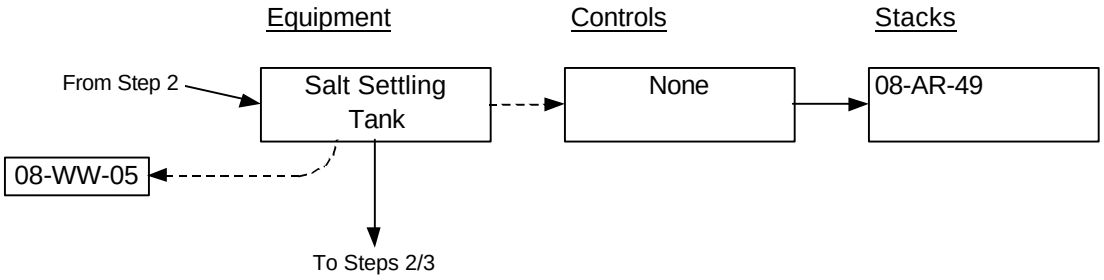


Phosphate Esters - Step 4
Recovery Step(Scenario 1)



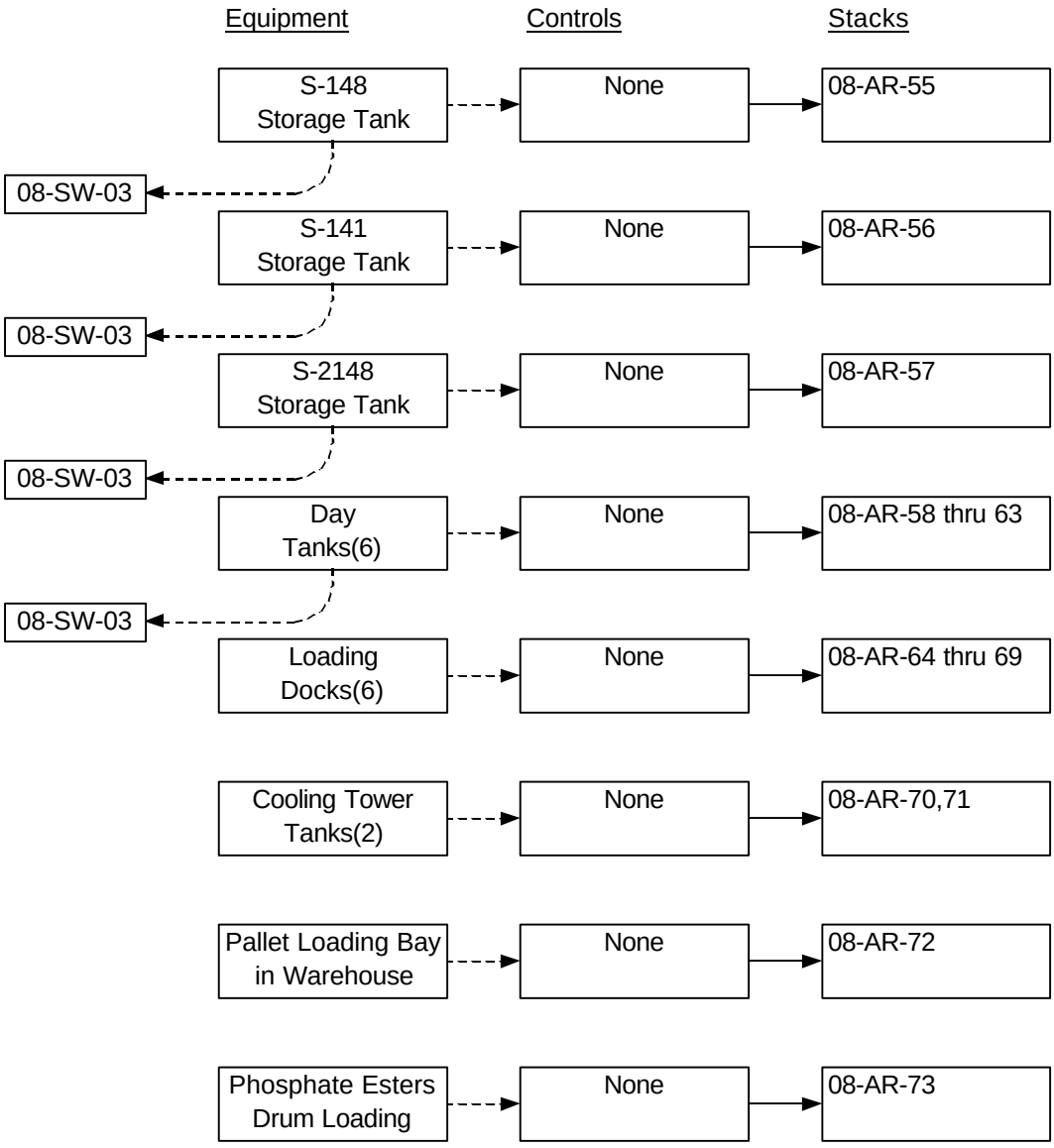
Modified 5/8/00

Phosphate Esters - Step 4
Recovery Step(Scenario 2)



Modified 02/18/00

Phosphate Esters - Step 5
Product Storage/Packaging Step



1.C. Equipment, Control Device, and Source Sheet Information

Phosphate Esters Manufacturing Equipment and Control Device List - Step 1

Raw Material Storage

The Raw Material Storage step of the Phosphate Esters Manufacturing system consists of one butanol storage tank, one phenol storage tank, one phosphorus oxychloride tank, one 2-ethylthexanol storage tank, one isodecanol storage tank, one hydrochloric acid storage tank, one sodium hydroxide storage tank, one epoxy resin storage tank, one EPAL storage tank, two therminol storage tanks and unloading docks. The phenol, POCl3, alcohols, and NaOH are unloaded from trailers. The epoxy and therminol are supplied from drums.

Equipment	Capacity	Control
Butanol Storage Tank (17-STV-06)	25,000 gallons	Conservation Vent
Phenol Storage Tank (08-STV-04)	50,000 gallons	Conservation Vent
Phos Oxychloride Stor Tank (08-STV-20)	25,000 gallons	Scrubber
2-ethylhexanol Storage Tank (08-STV-17)	50,000 gallons	None
Isodecanol Storage Tank (08-STV-03)	50,000 gallons	None
NaOH Storage Tank (08-STV-05)	50,000 gallons	Conservation Vent
EPAL Storage Tank (17-STV-01)	25,600 gallons	Conservation Vent

Insignificant Sources	Capacity	Control	Insignificance
HCl Storage Tank (08-STV-12)	2,000 gallons	Hygiene Scrubber	<10K Storage
Epoxy Resin Storage Tank (17-STV-05)	400 gallons	Conservation Vent	<2K VOC Storage
Therminol Storage Tanks(2) (08-PTV-26,08-PTV-27)	1,600 & 3,000 gallons	None	<10K Storage

Exempt Sources	Capacity	Exempt Status
Unloading Docks (08-TTE-01)	N/A	Vented through storage tanks

Phosphate Esters Manufacturing Equipment and Control Device List - Step 2

Reactor System(Scenario 1)

The Reactor System of the Phosphate Esters Manufacturing Process consists of one alcohol weigh tank, three reactors, an HCl absorber and vacuum system, one chloridate weigh tank, two phenate hold tanks, one phenate weigh tank, one caustic mix tank, one phenol weigh tank. The first part of the reaction occurs in reactor one. A reaction of an alcohol and phosphorus oxychloride produces a chloridate mixture and HCl offgas. The offgas flows to the HCl absorber and vacuum system. From there it is either sent to Step 3 for further recovery or sent to the wastewater treatment plant. The phenate is further reacted with caustic and phenol is the second and third stage reactor. The product mix is then sent to steps 3 and 4 for further refinement and recovery.

Reactor System(Scenario 2)

The Reactor System of the Phosphate Esters Manufacturing Process consists of one alcohol weigh tank, one reactor, one isobutanol recovery condenser, one HCl Absorber and Vacuum System and one chloridate weigh tank. The reaction of isobutanol and POCl3 occurs in Step 1 Reactor and produces the crude TIBP product and HCl offgas. The offgas flows through the isobutanol recovery system to the HCl absorber and vacuum system. From there it is either sent to Step 3 for further recovery or sent to the wastewater treatment plant. The crude TIBP product is sent to Step 2/3 Reactor in the Refining/Recovery (Step 3) for washing.

Equipment	Capacity	Control
Alcohol Weigh Tank (08-PTV-24)	2,000 gallons	Conservation Vent
HCl Absorber and Vacuum System (08-PRV-01a)	150 gallons	None
Caustic Mix Tank (08-PTV-23)	3,500 gallons	None
Reactor II/III (Scenario 1 only) (08-PRV-02)	8,000 gallons	Conservation Vent/None
HCl Seal Tank (08-PTV-01)	400 gallons	None
Phenate Tank (08-STV-11)	6,000 gallons	None
Phenate Tank (17-PTV-02)	11,500 gallons	Conservation Vent
Phenate Weigh Tank (08-PTV-22)	2,000 gallons	Conservation Vent

Insignificant Sources	Capacity	Control	Insignificance
Catch Pot* (08-PTV-01b)	250 gallons	None	<50 lb/hr
West Cooling Tower* (08-PCT-01)	25,000 gallons	None	<50 lb/hr feed
East Cooling Tower* (08-PCT-01a)	33,000 gallons	None	<50 lb/hr feed

Exempt Sources	Capacity	Exempt Status
Reactor 1 (08-PRV-01)	3,000 gallons	No Direct Emissions
Phenol Weigh Tank (08-STV-21)	2,000 gallons	No Direct Emissions
Chloridate Weigh Tank (IsBuOH) (08-PTV-02)	2,240 gallons	No Direct Emissions

* - Not listed in process flow diagram

Modified 02/18/00

Phosphate Esters Manufacturing Equipment and Control Device List - Step 3

Refining/Recovery (Scenario 1)

The Refining/Recovery step of the Phosphate Esters Manufacturing System consists of one washer feed tank, nine mix pots and nine decanters, one steamer feed tank, one steamer column, and a steamer overheads tank. The product is held in the washer feed tank and washed and separated in the series of mixpots and decanters. The mixture is fed to the steamer column from the steamer feed tank. The product is filtered and sent to Step 5 for packaging. The steamer overheads tank further separates a weak HCl layer from the waste phosphate ester residue. The weak layer is sewered and the organic layer is sent off site as waste.

Refining/Recovery (Scenario 2)

The Refining/Recovery step of the Phosphate Esters Manufacturing System consists of one reactor, one batch dehydrator, one steamer overheads tank, one receiver drum, and one steamer feed tank. The crude TIBP product is washed in the Step 2/3 Reactor. It is then sent to the batch dehydrator for drying and low boiler removal. The condensed overheads are sent to the steamer overheads tank for further separation of wastewater and waste residue. Another cut from the dehydrator is sent to the receiver drum for further TIBP recovery. The product is filtered and sent to Step 5 for packaging.

Equipment		Capacity	Control
Mix Pots (9)	(1-6)	60 gallons	None
(08-PRV-05,08-PRV-07,08-PRV-09,08-PRV-11,08-PRV-13,08-PRV-15)			
	(7-9)	100 gallons	None
(08-PRV-17,08-PRV-19,08-PRV-21)			
Decanters (9)	(1-6)	330 gallons	None
(08-PRV-04,08-PRV-06,08-PRV-08,08-PRV-10,08-PRV-12,08-PRV-14)			
	(7-9)	800 gallons	None
(08-PRV-16,08-PRV-18,08-PRV-20)			
Steamer Column		1,000 gallons	None
(08-PRV-03)			
Steamer Overheads Tanks		5,000 gallons	Conservation Vent
(08-PTV-05)			
Steamer Overheads Tanks Loading		Spot 250 GPM	None
(08-TTE-10)			
DiBP Batch Dehydrator		5,000 gallons	None
(08-PRV-03a)			
Reactor II/III (Scenario 2 only)		8,000 gallons	Conservation Vent/None
(08-PRV-02)			
Washer Feed Tank		5,000 gallons	None
(08-PTV-09)			
Steamer Feed Tank		3,000 gallons	None
(08-PTV-04)			
Brine Tank		<1,000 gallons	None
(08-OTT-01)			

Exempt Sources	Capacity	Exempt Status
Hot Water Tank*	5,000 gallons	Storage of Water
(08-STV-07)		
Zeolite Water Softeners (2)*	700 gallons each	Pressurized
(08-PRV-24, 08-RPV-25)		
TiBP Receiver Drum	150 gallons	No Direct Emissions
(08-PTV-30)		

* - Not listed in process flow diagram

Phosphate Esters Manufacturing Equipment and Control Device List - Step 4

Recovery Step(Scenario 1)

The Recovery step to the Phosphate Esters Manufacturing System consists of one caustic settling tank, two oil/water separators, one salt settling tank and five rework storage tanks. Material is recovered through the settling tank and the oil/water separators. Additional recovery of product is recovered in the salt settling tanks. The recovered material form the caustic settling tank, the oil/water separators, and the salt settling tank are either stored in rework storage tanks or sent directly back to the refining/recovery step for processing. The rework storage tanks are used to store excess material from the batch until that product is run again.

Recovery Step(Scenario 2)

The Recovery step to the Phosphate Esters Manufacturing System consists of one salt settling tank. Material is recovered through the salt settling tank.

Equipment	Capacity	Control
Caustic Settling Tank (08-PTV-06)	7,500 gallons	None
Oil/Water Separators(2) (08-PRV-22,08-PRV-23)	3,500 & 700 gallons	None
Salt Settling Tank (08-PTV-03)	5,000 gallons	None

Insignificant Sources	Capacity	Control	Insignificance
Rework Storage Tanks(4)			
S-148 (T314) (08-PTV-28)	1,200 gallons	None	<10K Storage
S-141 (T313) (08-PTV-29)	1,200 gallons	None	<10K Storage
DBPP (T315) (17-PTV-01)	1,200 gallons	None	<10K Storage
S-2148 (T432) (08-PTV-08)	3,000 gallons	None	<10K Storage
Process Surge Tank (08-PTV-25)	1,000 gallons	None	<10K Storage

Modified 02/18/00

Phosphate Esters Manufacturing Equipment and Control Device List - Step 5

Product Storage/Packaging Step

The Product Storage/Packaging step to the Phosphate Esters Manufacturing System consists of one S-148 product storage tank, one S-141 product storage tank, one S-2148 product storage tank, six day tanks, six loading docks, two cooling tower tanks, and one pallet loading bay.

Equipment	Capacity	Control
S-148 Product Storage Tank (08-STV-06)	100,000 gallons	None
S-141 Product Storage Tank (08-STV-02)	100,000 gallons	None
S-2148 Product Storage Tank (17-STV-02)	148,000 gallons	None
Day Tanks (2) (17-STV-03,17-STV-04)	12,500 gallons each	None
Loading Docks (6) (08-TTE-02, 08-TTE-03, 08-TTE-04, 08-TTE-05, 08-TTE-06, 08-TTE-07)	250 gallons/minute	None
Phosphate Esters Drum Loading (08-TTE-09)	55 gallons/minute	None
Day Tanks (2) (08-STV-09, 08-STV-10)	8,000 gallons each	None
Day Tanks (2) (08-STV-14, 08-STV-15)	9,800 gallons each	None

Insignificant Sources	Capacity	Control	Insignificance
Cooling Tower Tanks (2) (08-STV-18,08-STV-19)	550 gallons each	None	<10K Storage

Exempt Sources	Capacity	Exempt Status
Pallet Loading Bay (08-TTE-08)	n/a	No Direct/Indirect Emissions

1.D. Source Control Data Sheets CONTROL DATA SHEET

SCRUBBERS

Control Designation: 08-CD-01

1. Type of Scrubber (venturi, packed tower, etc.): Venturi followed by packed tower
   A. Make: b. Model No. 16X16/36T - 8H/84V
   C. Manufacturer: Croll - Reynolds Co. Inc.

2. Is the scrubber used for particulate control or gas absorption? Gas Absorption
   A. If used for particulate control attach a particle size distribution analysis.
   B. If used for gas absorption, list all gases being absorbed by their chemical name. HCl & POCl3

3. What is the liquid being used for absorption? Water

4. What are the chemical additives in the liquid? Give chemical names and their concentrations. How are they maintained? None

5. What are the minimum and maximum values for pH? 1(Min), 9(Max)
   What are the minimum and maximum values for density of scrubbing medium (g/cm^3)? 0.023(min), 1.5(max)

6. What are the minimum and maximum values for oxidation reduction potential (mV)? NA,NA

7. Is the liquid once-through or recirculated? Recirculated

8. Is the scrubber equipped with a mist eliminator? Yes XXX No If yes what is the type and the dimensions? Mesh Pad, 36" diameter X2 " thick minimum

9. What are the minimum flow rates of the liquid (gal/min)? 175 GPM to the venturi & 100 lbs/min to the packed tower
   What type of monitor and recorder? Flow Meter - Display Screen

10. What is the maximum flow rates of the gas(ft^3/sec)? 50
    What type of monitor and recorder? None

		Packed Tower	Venturi
11.	What are the minimum and maximum pressure drops across the scrubber (in. WC)?	0.005, 8	1.0, 10
	What type of monitor and recorder?	Pressure Indicator - Display Screen	

12. Relative direction of gas and liquid flow (co-current or counter- current)? 1st Stage - Co-current
    2nd Stage - Counter current

13. Venturi Scrubber*
    A. Length and diameter of throat? 17 11/16", 3"
    B. Mechanism of introduction of the liquids (nozzles, pipes, etc.)? Nozzle Type of nozzle(s)? Spray
    C. Inlet gas temperature (ºF)? 95 Outlet(ºF)? 95
    D. Inlet and Outlet particle grain loading (grains/dscf)? NA,NA

14. Packer Tower*
    A. Number of transfer units? 4.605
    B. Height of transfer units? 1.3 feet
    C. Type and size of packing material? Tri-Pack 5 1/2"
    D. Height of packed section (ft.)? 8 Feet
    E. Total height of tower (ft.)? 13.5 Diameter(ft)? 3.0

15. Sketch of Scrubber. In application

16. Does the scrubber have a fan? No

* If Scrubber is not a venturi or packed tower, please answer any of the above questions pertaining to your design.

Stack Designation: 08-AR-03 Source Designation: 08-STV-20

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1.E. Process Stack Sheet Information

Stack Designation	Description	# of Sig Sources	New Jersey Stack #	Previous Certificate Numbers	Distance to Nearest Property Line (ft)	Diameter Dimension (in)	Discharge Height (ft)	Exit Temp (F)	Gas Discharge Rate (acfm)	Discharge Direction (Up,Down, Horizontal)
08-AR-01	Butanol Storage Tank	1	12	072765	1200	3	20	70	26.7	Up
08-AR-02	Phenol Storage Tank	1	27	002561	1200	3	27	100	13.3	Down
08-AR-03	POCl3 Storage Tank	1	66	017116	1200	18(scr) 3(CV)	16	100	1775	Up
08-AR-04	2-Ethylhexyl Storage Tank	1	25	002559	1200	3	2	<100	<30	Down
08-AR-05	Isodecanol Storage Tank	1	26	002560	1200	3	2	Ambient	13	Down
08-AR-07	Caustic Storage Tank	1	50	002584	1200	3	25	80	13.3	Down
08-AR-09	EPAL Storage Tank	1	11	072764	1200	3	20	70	26.7	Up
08-AR-13	Alcohol Weigh Tank	1	133	081472	1200	3	40	70	6.7	Down
08-AR-15	HCl Absorber	1	47	109548	1200	3	50	212	<22	Horizontal
08-AR-16	HCl Seal Tank	1	39	079569	1200	3	5	100	5.3	Down
08-AR-18	Phenate Tank	1	116	073588	1200	4	2	70	1.3	Down
08-AR-19	Phenate Tank	1	61	098893	1200	2	20	55	1.3	Horizontal
08-AR-20	Phenate Weigh Tank	1	118	073570	1200	3	15	77	13.4	Down
08-AR-21	Caustic Mix Tank	1	115	073567	1200	3	10	100	5.3	Down
08-AR-23	Step 2/3 Reactor	1	48	096820	1200	24	40	70	13.4	Down
08-AR-24	Washer Feed Tank	1	129	095700	1200	2	39	70	7.4	Down
08-AR-25	Decanter #1 1-439	1	32	096818	1200	1 & 1	26	<185	1	Down
08-AR-26	Mixpot #1 1-442	1	40	074544	1200	3 equiv.	28	<185	1	Down
08-AR-27	Decanter #2 1-439	1	33	096819	1200	2	26	<185	1	Down
08-AR-28	Mixpot #2 1-443	1	41	074545	1200	3	23	<185	1	Down
08-AR-29	Decanter #3 1-444	1	34	074540	1200	1	24	<185	1	Down
08-AR-30	Mixpot #3 1-440	1	42	074546	1200	3	22	<185	1	Down
08-AR-31	Decanter #4 1-440	1	35	074541	1200	1	24	<185	1	Down
08-AR-32	Mixpot #4 1-445	1	43	074547	1200	3	22	<185	1	Down
08-AR-33	Decanter #5 1-441	1	36	074542	1200	1	22	<185	1	Down
08-AR-34	Mixpot #5 1-446	1	44	074548	1200	3	21	<185	1	Down
08-AR-35	Decanter #6 1-441	1	37	081312	1200	1	22	<185	1	Down
08-AR-36	Mixpot #6 1-447	1	45	074549	1200	3	21	<185	1	Down
08-AR-37	Decanter #7	1	154	112026	1200	2	41	<185	1	Down
08-AR-38	Mixpot #7 1-805	1	159	113349	1200	3	38	<185	1	Down
08-AR-39	Decanter #8	1	155	112027	1200	2	41	<185	1	Down
08-AR-40	Mixpot #8 1-806	1	157	112029	1200	3	38	<185	1	Down
08-AR-41	Decanter #9	1	156	112028	1200	2	41	<185	1	Down
08-AR-42	Mixpot #9 1-807	1	158	112030	1200	3	38	<185	1	Down
08-AR-43	Steamer Feed Tank	1	128	095688	1200	2	22	122	1.4	Down
08-AR-44	Steam Column,TiBP Dehydrat	2	49	109549	1200	1.5	40	75	20	Horizontal
08-AR-45	Steamer Overhead Tank 1-145	1	38 & 46	095696	1200	2	10	127	0.06	Down
08-AR-46	Caustic Settling Tank	1	30	096816	1200	4	10	70	0.5	Down
08-AR-47	Big Coalescer	1		GRAN	1200	6	1	<185	1	Horizontal
08-AR-48	Small Coalescer	1		GRAN	1200	4	1	<185	1	Horizontal
08-AR-49	Salt Settling Tank	1	31	096817	1200	4	12	70	17.4	Down
08-AR-55	S-148 Storage Tank	1	29	002563	1200	3	32	Ambient	13	Down
08-AR-56	S-141 Storage Tank	1	28	002562	1200	3	32	Ambient	13	Down
08-AR-57	S-2148 Product Storage Tank	1	149	099975	1200	3	34	70	6.4	Down
08-AR-58	Day Tank	1			1200	3	20	Ambient	34	Down
08-AR-59	Day Tank	1			1200	3	20	Ambient	34	Down
08-AR-60	Day Tank	1	131	074457	1200	4	16	70	1.3	Down
08-AR-61	Day Tank	1	132	074458	1200	2	16	70	13.1	Down
08-AR-62	T-514N Day Tank	1	60	097731	1400	2	20	70	2.67	Horizontal
08-AR-63	T-514S Day Tank	1	152	102782	1400	2	20	70	2.67	Horizontal
08-AR-64	Loading West of Warehouse	1		GRAN	1200	18	13	<200	<30	Up
08-AR-65	Loading T3SF DBPP	1		GRAN	1200	18	13	<200	<30	Up
08-AR-66	Loading T2SE PE	1		GRAN	1200	18	13	<200	<30	Up
08-AR-67	Loading T2SD PE	1		GRAN	1200	18	13	<200	<30	Up
08-AR-68	Loading T3SE PE	1		GRAN	1200	18	13	<200	<30	Up
08-AR-69	Loading T2SF PE	1		GRAN	1200	18	13	<200	<30	Up
08-AR-73	Phosphate Ester Drumming	1		GRAN	1400	3	36	Ambient	<10	Up
08-AR-74	Brine Tank	1			1200	72	4.5	Ambient	<35	Up
08-AR-75	SO Tank Loading	1			1200	18	13	<200	<30	Up

Modified 02/18/00

1.F. Raw Material/Contaminant List

VOCs		
HAPs		
	Phenol	108-95-2
	Hydrochloric Acid	7647-01-0
Other		
	Chlorodifluoromethane	75-46-6
	Methane	74-82-8
	Nitrogen	7727-37-9
	Phosphorus Oxychloride	10025-87-3

2.A., B., and C. Technical Information - Release and Alteration/Amendment Limits

Source Designation	Category:	Volatile Organic Compounds		OTHER
	Sub-Category:	HAPS		HAPS
	Constiuent:	Phenol	Other	HCl
		Lb/Hr	Lb/Hr	Lb/Hr
08-OTT-01				Below Threshold
08-PRV-01a			2.3	0.01
08-PRV-02		0.1	0.1	0.01
08-PRV-03			1.5	
08-PRV-03a			0.5	
08-PRV-04			Below Threshold	
08-PRV-05			Below Threshold	
08-PRV-06			Below Threshold	
08-PRV-07			Below Threshold	
08-PRV-08			Below Threshold	
08-PRV-09			Below Threshold	
08-PRV-10			Below Threshold	
08-PRV-11			Below Threshold	
08-PRV-12			Below Threshold	
08-PRV-13			Below Threshold	
08-PRV-14			Below Threshold	
08-PRV-15			Below Threshold	
08-PRV-16			Below Threshold	
08-PRV-17			Below Threshold	
08-PRV-18			Below Threshold	
08-PRV-19			Below Threshold	
08-PRV-20			Below Threshold	
08-PRV-21			Below Threshold	
08-PRV-22			0.26	
08-PRV-23			Below Threshold	
08-PTV-01			0.06	
08-PTV-03			0.09	
08-PTV-04			Below Threshold	
08-PTV-05			Below Threshold	
08-PTV-06			0.26	
08-PTV-09			Below Threshold	
08-PTV-22			Below Threshold	
08-PTV-23			Below Threshold	
08-PTV-24			0.9866	
08-STV-02		No lb/hr, Storage Only		
08-STV-03		No lb/hr, Storage Only		
08-STV-04		No lb/hr, Storage Only		
08-STV-05		No lb/hr, Storage Only		
08-STV-06		No lb/hr, Storage Only		
08-STV-09			Below Threshold	
08-STV-10			Below Threshold	
08-STV-11			0.15	
08-STV-14			Below Threshold	
08-STV-15			Below Threshold	
08-STV-17		No lb/hr, Storage Only		
08-STV-20		No lb/hr, Storage Only		
08-TTE-02			Below Threshold	
08-TTE-03			Below Threshold	
08-TTE-04			Below Threshold	
08-TTE-05			Below Threshold	
08-TTE-06			Below Threshold	
08-TTE-07			Below Threshold	
08-TTE-09			Below Threshold	
08-TTE-10		0.008	2.984	
17-PTV-02			0.15	
17-STV-01		No lb/hr, Storage Only		
17-STV-02		No lb/hr, Storage Only		
17-STV-03			Below Threshold	
17-STV-04			Below Threshold	
17-STV-06		No lb/hr, Storage Only		

	Category:	Volatile Organic Compounds		OTHER
	Sub-Category:	HAPS		HAPS
	Constiuent:	Phenol	Other	HCl
	Ton/Year Significant	**0.32**	10.399	0.074
	Ton/Year Insignificant	0.000	0.730	0.000
	Ton/Year Fugitive	0.250	1.800	0.100
	Lb/Product	7.75E-05	7.70E-04	5.50E-06

Modified 02/18/00
Modified 8/9/00

3. Compliance Plan

3.A. Applicable Requirements

The following **storage and transfer VOC** emission sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9, 16.2, 16.4

Significant Sources		Insignificant Sources
17-STV-06	Butanol Storage Tank	

The following **process VOC** emission sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9, 16.16[b, c, d, g(1,4)], 16.22

Significant Sources		Insignificant Sources	
08-PTV-24	Alcohol Weigh Tank	08-PTV-01b	Catch Pot
08-PRV-01a	HCl Absorber and Vacuum		
08-PRV-02	Reactor II/III		
08-STV-11	Phenate Tank		
17-PTV-02	Phenate Tank		
08-PRV-05	Mix Pot		
08-PRV-07	Mix Pot		
08-PRV-09	Mix Pot		
08-PRV-11	Mix Pot		
08-PRV-13	Mix Pot		
08-PRV-15	Mix Pot		
08-PRV-17	Mix Pot		
08-PRV-19	Mix Pot		
08-PRV-21	Mix Pot		
08-PRV-04	Decanter		
08-PRV-06	Decanter		
08-PRV-08	Decanter		
08-PRV-10	Decanter		
08-PRV-12	Decanter		
08-PRV-14	Decanter		
08-PRV-16	Decanter		
08-PRV-18	Decanter		
08-PRV-20	Decanter		
08-PRV-03	Steamer Column		
08-PTV-05	Steamer Overheads Tank		
08-PRV-03a	Batch Dehydrator		
08-PTV-09	Washer Feed Tank		
08-PTV-04	Steamer Feed Tank		
08-PTV-06	Caustic Settling Tank		
08-PRV-22	Oil/Water Separator		
08-PRV-23	Oil/Water Separator		
08-PTV-03	Salt Settling Tank		
08-PTV-22	**Phenate Weigh Tank**		

The following emission sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9

Significant Sources	
08-STV-17	2-Ethylhexanol Storage Tank
08-STV-03	Isodecanol Storage Tank
17-STV-01	EPAL Storage Tank

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08-STV-20	Phosphorous Oxychloride Storage Tank
08-STV-05	NaOH Storage Tank
08-PTV-23	Caustic Mix Tank
08-PTV-01	HCl Seal Tank
08-OTT-01	Brine Tank
08-STV-06	S-148 Product Storage Tank
08-STV-02	S-141 Product Storage Tank
17-STV-02	S-2148 Product Storage Tank
17-STV-03	Day Tank
17-STV-04	Day Tank
08-STV-09	Day Tank
08-STV-10	Day Tank
08-STV-14	Day Tank
08-STV-15	Day Tank
08-TTE-10	Steamer Overheads Loading Spot
08-TTE-02	Loading Dock
08-TTE-03	Loading Dock
08-TTE-04	Loading Dock
08-TTE-05	Loading Dock
08-TTE-06	Loading Dock
08-TTE-07	Loading Dock
08-TTE-09	Phosphate Esters Drum Loading

No additional requirements beyond those referenced in the general section of the permit apply to these sources:

Insignificant Sources

08-STV-12	HCl Storage Tank
08-PCT-01	West Cooling Tower
08-PCT-01a	East Cooling Tower
08-STV-14	Cooling Tower Tank
08-STV-15	Cooling Tower Tank
17-STV-05	Epoxy Resin Storage Tank
08-STV-04	Phenol Storage Tank
08-PTV-28	S-148 Storage Tank
08-PTV-29	S-141 Storage Tank
17-PTV-01	DBPP Storage Tank
08-PTV-08	S-2148
08-PTV-26	Therminol Storage Tank
08-PTV-27	Therminol Storage Tank
08-PTV-25	Process Surge Tank

3.B. Recordkeeping, Monitoring, and Reporting

1. Recordkeeping

The permittee shall record the following for emissions:

a. The date of operation

b. Amount of phosphorus oxychloride fed to the reactor system per day

Modified 02/18/00

The permittee shall record pH and flow rates as per 2.a. below. The permittee shall also record calibration dates as per 2.b. below.

The permittee shall record on a monthly basis and running yearly total the throughput of each tank and transfer operation to comply with the limits with 3.C.1. below.

These records shall be maintained on site for a minimum of five years after the last collection, in a permanently bound log book, readily accessible computer memory, or by another method acceptable to the Regional Enforcement Office. These records must also be available to representatives of the Department.

2. Monitoring

a. The following control devices shall be maintained and operated in accordance with the specifications defined in Section 1D of this process package. A double asterisk in the following text denotes that the monitoring equipment is not yet in place. Monitoring and recordkeeping requirements shall not be required for those parameters until a monitoring device is in place. Upon completion of installation of the monitoring device, monitoring and recordkeeping shall be required.

08-CD-01 Scrubber for Phosphorus Oxychloride Storage Tank (08-STV-20)

Venturi – The flow rate of the water at the inlet shall be monitored and recorded at least once per day. The flow rate shall be maintained above 175 gallons per minute. In the event that the flow meter cannot be read, a back-up reading for the inlet water pressure (circulation pump) shall be monitored and recorded at least once per day. The pressure shall be maintained between 30 and 100 psig.

Packed Tower - The flow rate of the water at the inlet and the pressure drop across the scrubber shall be monitored and recorded at least once per day. The flow rate shall be maintained above 100 pounds per minute. The pressure drop across the packed tower shall be maintained between 0.005 and 8 inches of water column. In the event that the flow meter cannot be read, a back-up reading for the inlet water pressure (circulation pump) shall be monitored and recorded at least once per day. The pressure shall be maintained between 30 and 100 psig.

Scrubbing Media (Water) Quality – The density of the scrubbing medium shall be monitored and recorded at least once per day. The density shall be maintained between 0.7 and 2.0 grams/cubic centimeter.

b. The permittee shall maintain and calibrate all monitors consistent with the manufacturers specifications or other written procedures. All specifications must be made available to a representative of the Department upon request.

Modified 02/18/00

c. A maximum of 72,300 pounds of phosphorus oxychloride shall be fed to the reactor system in any one day.

3. Reporting

Release Summary Reports: The permittee shall submit to the Department, beginning from the effective date of this permit, a summary of all releases from this process. The requirements of this report are defined in Section III.D.3.a. of this permit.

3.C. Special Conditions

1. Storage tank 08-PTV-02, chloridate weigh tank, shall be limited to a maximum throughput of 35,000,000 pounds per calendar year of product.

Storage tank 08-PTV-24, alcohol weigh tank, shall be limited to a maximum throughput of 12,000,000 pounds per calendar year of iso-butyl alcohol, 12,200,000 pounds per calendar year of butanol, 10,800,000 pounds per calendar year of C12–14-16 alcohol, 10,500,000 pounds per calendar year of 2-ethylhexanol, and 12,300,000 pounds per calendar year of isodecyl alcohol.

Storage tank 08-STV-01, POCl3 vent tank, shall be limited to a maximum throughput of 18,000,000 pounds per calendar year of phosphorous oxychloride.

Storage tank 08-STV-02, S-141 storage tank, shall be limited to a maximum throughput of 26,100,000 pounds per calendar year of Santicizer 141.

Storage tank 08-STV-03, isodecanol storage tank, shall be limited to a maximum throughput of 12,300,000 pounds per calendar year of isodecyl alcohol.

Storage tank 08-STV-04, phenol storage tank, shall be limited to a maximum throughput of 15,000,000 pounds per calendar year of phenol.

Storage tank 08-STV-06, S-148 storage tank, shall be limited to a maximum throughput of 26,500,000 pounds per calendar year of santicizer-148.

Storage tank 08-STV-17, 2-ethyl hexanol storage tank, shall be limited to a maximum throughput of 10,500,000 pounds per calendar year of 2-ethylhexanol.

Storage tank 08-STV-20, POCl3 storage tank, shall be limited to a maximum throughput of 18,000,000 pounds per calendar year of phosphorus oxychloride.

Storage tank 17-STV-01, C12-14-16 alcohol storage tank, shall be limited to a maximum throughput of 10,800,000 pounds per calendar year of C12-14-16 alcohol.

Storage tank 17-STV-02, S-2148 storage tank, shall be limited to a maximum throughput of 20,800,000 pounds per calendar year of santicizer-2148.

Storage tank 17-STV-06, butanol/isobutanol storage tank shall be limited to a maximum throughput of 12,200,000 pounds per calendar year of butanol and 12,000,000 pounds of iso-butyl alcohol.

08-STV-05, caustic storage tank, shall be limited to a maximum throughput of 10,400,000 pounds per calendar year of NaOH.

Modified 5/8/00

08-STV-09, 10, S-141 & S-148 day tanks, shall be limited to a maximum throughput of 26,100,000 pounds per calendar year of S-141, and 26,400, 000 pounds per calendar year of S-148.

08-STV-14, 15, DBPP “A” & “B” day tanks, shall be limited to a maximum throughput of 17,600,000 pounds per calendar year of DBPP and 6,850,000 pounds of TIBP.

Loading area 08-TTE-10, steamer overheads loading spot, shall be limited to a maximum throughput of 500,000 pounds per calendar year of phosphate ester steamer overheads.

17-STV-03, 04, S-2148 north and south Day Tanks, shall be limited to a total maximum throughput of 20,800,000 pounds per calendar year of S-2148 product.

08-TTE-02, 03, 04, 05, 06, 07, 09, loading spots, shall be limited to a total maximum throughput of 20,800,000 pounds per calendar year of S-2148, 26,100,000 pounds per calendar year of S-141, 26,400,000 pounds per calendar year of S-148, and 17,600,000 pounds per calendar year of DBPP, 6,850,000 pounds per calendar year of TIBP, and 1,000,000 pounds per calendar year of VOC blend materials with a vapor pressure less than E^{-2} psi.

2. The permittee is authorized to deviate from operating parameters cited in 3.B.2. above for the control device listed below for a period of up to ten minutes during routine process maintenance. This maintenance shall include such activities as pump changes, checking safety interlocks and alarms, and back flushes.

   08-CD-01 POCl3 Tank Scrubber

3. The permittee is authorized to operate the following storage tank without the associated control device for up to a seven-day period if the control device is non-operational. However, no material may be transferred into the tank during the seven-day period. The control device must be operational within seven days or the tank taken out of use.

   08-STV-20 POCl3 Storage Tank

Modified 06/01/99, 02/18/00

1. A. General Process Description

Benzyl Phthalate Manufacturing Process

Benzyl Phthalate (BzPh) is produced by reacting phthalic anhydride (PA), benzyl chloride (BzCl), and an alcohol.

The PA is mixed prior to introduction to the reactors with an alcohol and triethylamine (TEA). The PA mixture and BzCl are reacted in a three-stage reactor system. Various alcohols are added to form specialty products.

The entire mixture is decanted and separated into salt, TEA and BzPh. The TEA is recovered in later steps. Byproduct salts are dissolved by HCl. The BzPh is recovered in a series of steps. The salts are sent back for further dissolving.

The off gas from the refinement of the BzPh is sent to a thermal oxidizing system.

Additional blending of product is also performed in this process. Products from all processes are blended in this area.